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THE BRITISH JOURNAL

OF

OPHTHALMOLOGY

SEPTEMBER, 1925

COMMUNICATIONS

ACUTE RETROBULBAR NEURITIS AFFECTING THE OPTIC CHIASMA AND TRACT

BY

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EDINBURGH

THAT the condition with which ophthalmologists are familiar as acute retrobulbar neuritis may have its site in the chiasma or tract has been established by Roenne[1, 2], but up to the present little notice has been taken in this country of this form of an otherwise common disease. Its recognition is of value in connection with the diagnosis of affections of the subgeniculate visual pathway and the cases which follow are therefore recorded in some detail.

According to Roenne's description the onset and course of the disease is the same as when the site is in the optic nerve itself. Preliminary headache is common. The field changes are characterized by the association of hemianopic defects with central scotoma and many combinations and variations may be present. An important feature, regarded by Roenne as very characteristic and almost diagnostic, is the wandering character of the defects which move from one part of the field to another while the previously involved portions recover their function. This wandering is not present in every case but may be represented by irregular changes in the shape of the fields.

These conditions are explained by the presence of disseminated foci in the optic nerve, chiasma, and tract which arise and subside in different parts of the cross section of the nerve path.

Ophthalmoscopically choked disc (*stauungspapille*) is often present, but, Roenne believes, neither directly anatomically connected with the diseased area nor concerned with the functional defect.

Roenne tabulates ten cases, five of which he has personally observed. In five cases, the onset of the visual defect was

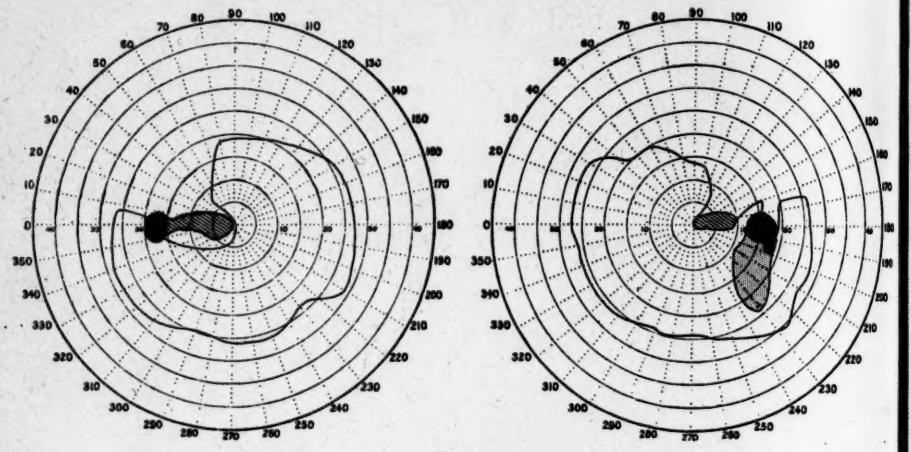


FIG. 1.

accompanied by headache with or without orbital pain or pain on moving the eyeball. In six cases, evidence of nervous disturbance in other parts was present or developed subsequently.

Case I

Mrs. T., aged 30 years. Seen August 6, 1912. Married seven years, no family, menses regular. Has been subject to "bilious headaches" occasionally, but considers her health excellent.

Two weeks ago, she awoke with a bad headache which continued for a day or two. There was pain behind the left eye which remained for about a fortnight and then moved to the back of the right eye. The pain extended to the root of the nose and to the ala nasi on the same side. Dimness of vision began on the first day of the headache.

R.V. 6/36 $\bar{c}$ $\frac{+2.0}{+2.0\ 70°}$ = 6/24. L.V. 6/60 $\bar{c}$ $\frac{+2.0}{+1.5\ 80°}$ = 6/36.

Centrocaecal scotoma in each field. Optic discs normal.

August 7, 1912.—Central fields show evidence of bitemporal hemianopia (Fig. 1). Below the blind spot in the right field is a relative scotoma for 3/2,000, suggesting the uncinate type. This

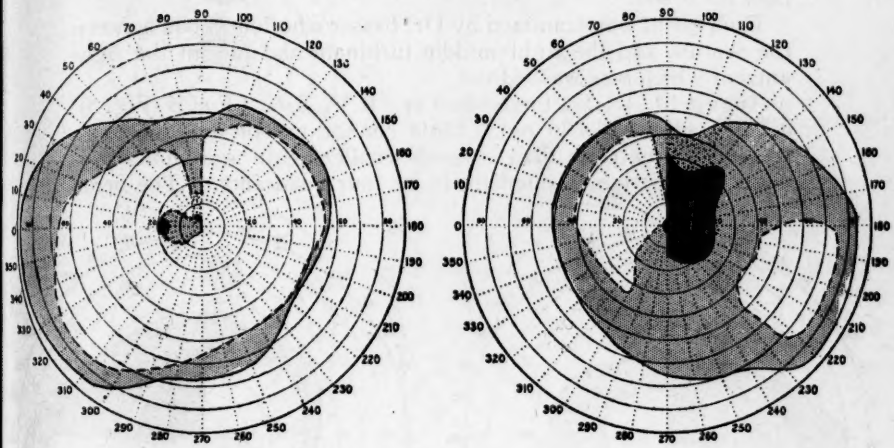


FIG. 2.

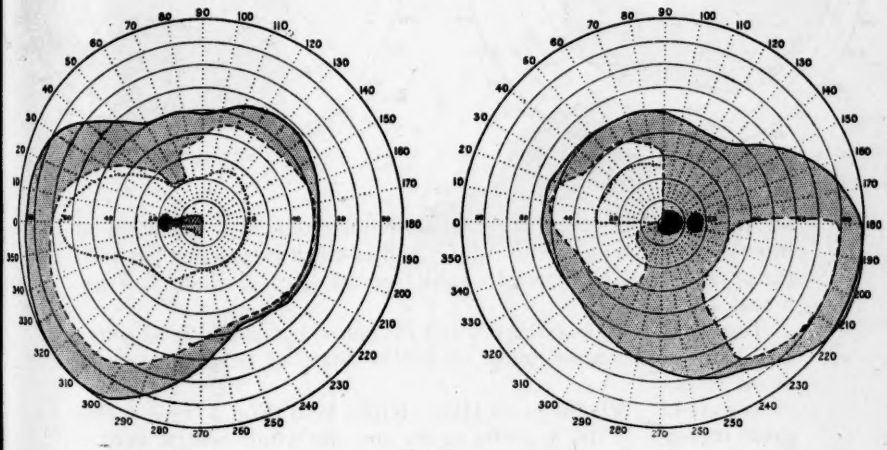


FIG. 3.

is similar in the left field but not so pronounced. Test objects: Fields, 3/2,000; scotoma, L.E. 7.5/2,000.

August 9.—R.V.=counting fingers at 3 m.; L.V.=6/60. Objects, 5,1/330. Typical bitemporal hemianopia in both fields more advanced in the right in which the scotoma has developed

rapidly (Fig. 2). The right field for 1/330 is vertically split showing a characteristic temporal island and commencing loss of the lower nasal quadrant. Very slight indentation up out in each field for 5/330.

The patient was examined by Dr. Fraser who found pus between the septum and the right middle turbinate and pus in the right antrum which was washed out.

August 10.—R.V., fingers at 3 m.; L.V., 6/60. Fields (Fig. 3), 5,1/330 white, 10/330 red. Little change except that the large scotoma in the right field is much smaller again and shows pronounced variation in intensity in its four quadrants. The fields

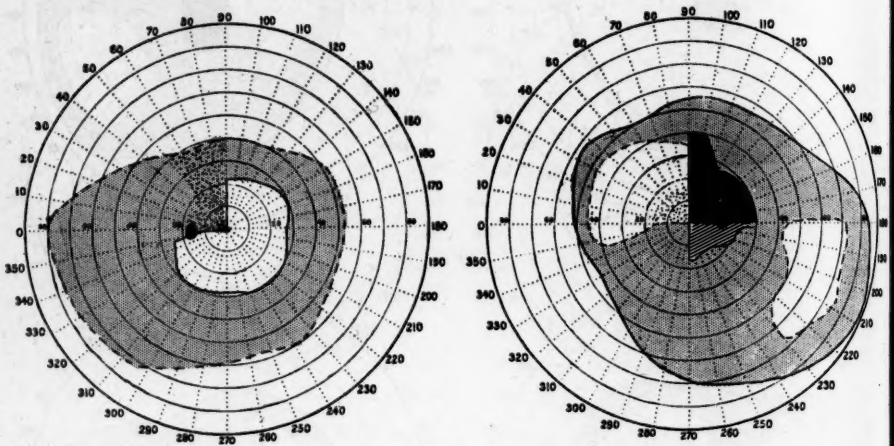


FIG. 4.

for red taken at this time showed definite quadrant variation in intensity, clockwise in the right, counter-clockwise in the left with temporal island in the right field (see ref. No. 3, Plate I, Figs. 3 and 4).

August 11.—R.V.=fingers at 4 m. below horizontal level only; L.V.=6/60 and nasal letter of 6/36. State of fields practically as on 10th.

August 12.—Vision as on 11th. Right field (Fig. 4) now shows great increase in the scotoma again and the whole central field is more depressed. Objects, 5.1/330; scotoma, 15/330. Left field shows relative defect for 1/330.

August 13.—R.V.=fingers at 1.5 m.; L.V.=6/36 nasal letter. Patient thinks her vision is improving. Radiogram of sinuses, sella turcica, negative. Slight pallor of optic discs apparent, more definite in right.

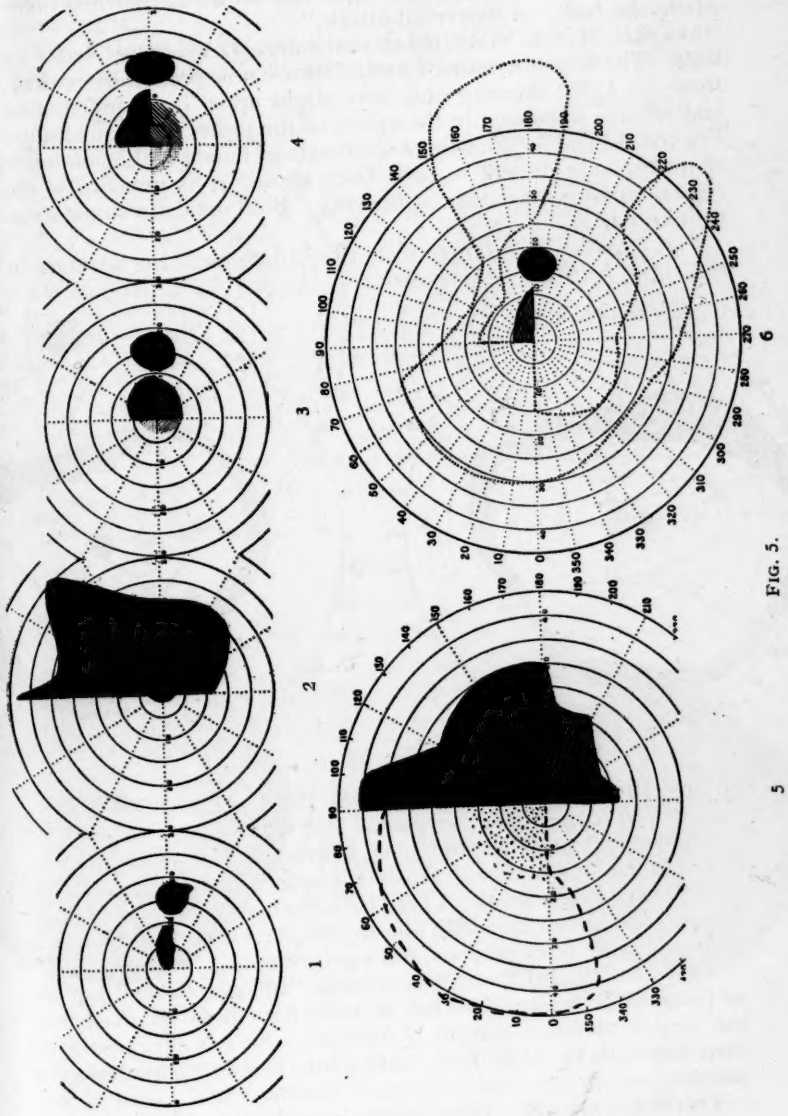


FIG. 5.

August 14.—Patient refused operation on nose, returned home where she had "an hysterical attack."

August 24.—R.V. = 6/60 excentrically; L.V. = nasal letter of 6/24. The fields for white, 1 and 5/330 are now practically normal, those for 1/330 showing only very slight upper outer indentation and relative scotomata in the apices of the upper outer quadrants. For red, 10 and 3/330 definite scotomata of bitemporal hemianopic character were present in both fields showing, as previously, the typical quadrant variation in intensity. Both optic discs now show definite pallor.

Fig. 5 shows on a larger scale the variations of the scotoma in the right field up to this date: 1, August 7; 2, August 9; 3

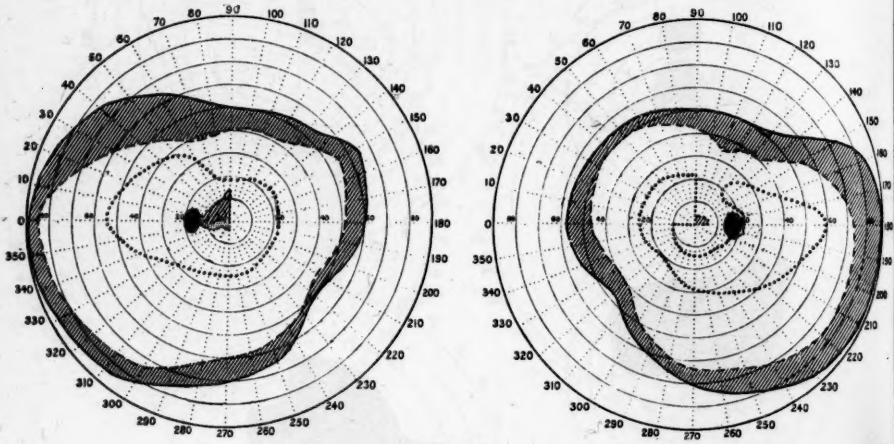


FIG. 6.

August 10; 4, August 11; 5, August 12; 6, August 24; field for red, 10/330 (dotted line), scotoma 1/330 white.

September 11.—R.V. and L.V. (corrected) 6/18. Fields (Fig. 6) shows features similar to those of August 24. Objects, 5.1/330; 10/330 red (dotted line). There have been several more "bilious attacks" with each of which she thinks her vision is temporarily depressed; she feels nervous and easily upset.

November 10, 1912.—Still occasional "bilious attacks" but not so frequent or severe. Two bits of bone have been removed from the upper alveolar margin by dentist. Still some post-nasal discharge. R.V., 6/18; L.V., 6/12 part. Discs show pathological pallor.

The fields showed almost normal conditions, such as would readily pass for normal by ordinary methods of testing. Only by using very small objects at 2,000 mm. could changes be elicited

representing vestigial remnants of the previous bitemporal hemianopia.

Fig. 7 shows the central fields: L.E., 1/2,000; R.E., 1,2/2,000. There was a relative dimness in the centrocaecal area but no actual

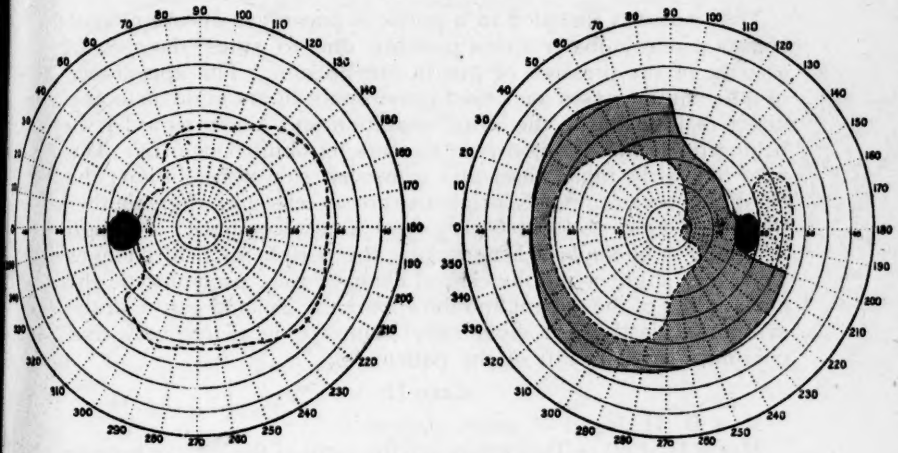


FIG. 7.

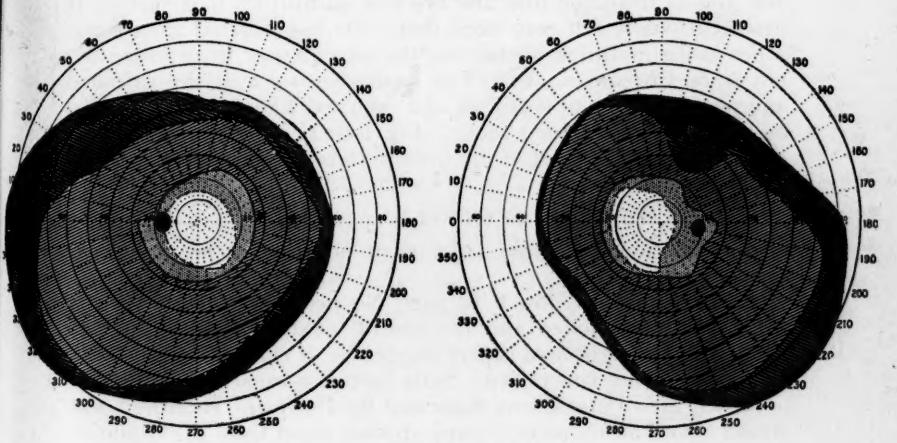


FIG. 8.

scotoma could be defined. Colours were better seen on the nasal side in both. The condition remained practically unchanged after this date. When last seen on May 20, 1921, R.V.=6/12 with difficulty; L.V.=6/12 nearly complete. Both discs pale. Fields, Fig. 8. A minute scotoma for 1/2,000 was found in the right field.

In January, 1925, thirteen years after the onset of the eye symptoms, the patient's health was good, and her sight "much the same," while the "bilious attacks" had practically ceased.

Comment

This case was included in a previous paper[3] as an example of chiasmal retrobulbar neuritis possibly due to sinus disease on account of the presence of pus in one antrum. The appearance of other similar cases has raised grave doubt in my mind as to any direct relationship to the antral condition and I now regard it as belonging to the common type of acute retrobulbar neuritis. We note the fairly rapid onset and somewhat slower resolution; the condition became worse for about three weeks and after another three or four weeks recovery was almost complete; although definitely a bitemporal hemianopia, the peripheral field changes were very slight while the central changes were pronounced; the age and sex of the patient and the apparently isolated nature of the symptoms; lastly, the practically complete local recovery and continued good health of the patient.

Case II

Miss B. H., aged 21 years, student.

March 15, 1921.—Two weeks ago the sight of the left eye became dim and at the same time the eye was painful on movement. It has occasionally felt sore since then. She has suffered from headaches twice or thrice weekly for the past two or three years but not since Christmas, 1920. The headaches were in the forehead and temples, without sickness, and occurred when she was excited or in a badly ventilated room. For four or five years there has been some enlargement of the thyroid, but she has had no trouble in connection with it.

R.V. $\bar{c}$ + 0.5 D.Sph. = 6/6. L.V. $\bar{c}$ +0.5 D.Sph. = 6/9 part.

Both discs seem rather paler than normal but not decidedly pathological.

March 16.—L.V. now 6/12 part. No peripheral defects of any kind could be elicited and the central fields only were charted (Fig. 9). The right field is very suggestive of chiasmal interference but by itself not conclusive. Sella turcica normal in appearance.

March 21.—Patient was examined by Professor Bramwell who found "no indications of organic disease apart from the condition of the eye."

March 28.—R.V.=6/6; L.V.=6/9. The scotoma has almost disappeared leaving only a slight temporal dimness. Right central field still much as in Fig. 9.

November 28.—R.V.=6/4.5 all but one letter; L.V.=6/4.5 complete. Fields, Fig. 10. Both peripheral fields normal, the

right central field (1/2,000) now almost surrounds the blind-spot: the left field for 2/2,000 shows a slight upper outer defect, that for 1/2,000 is contracted especially temporally, while the field for

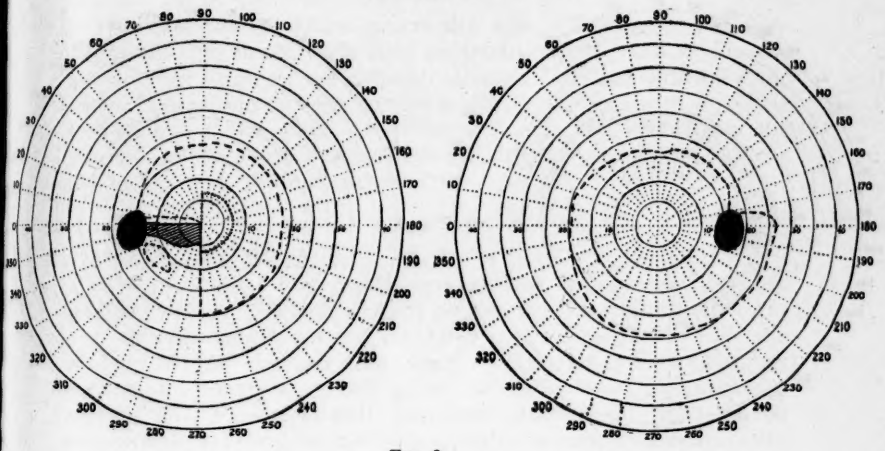


FIG. 9.

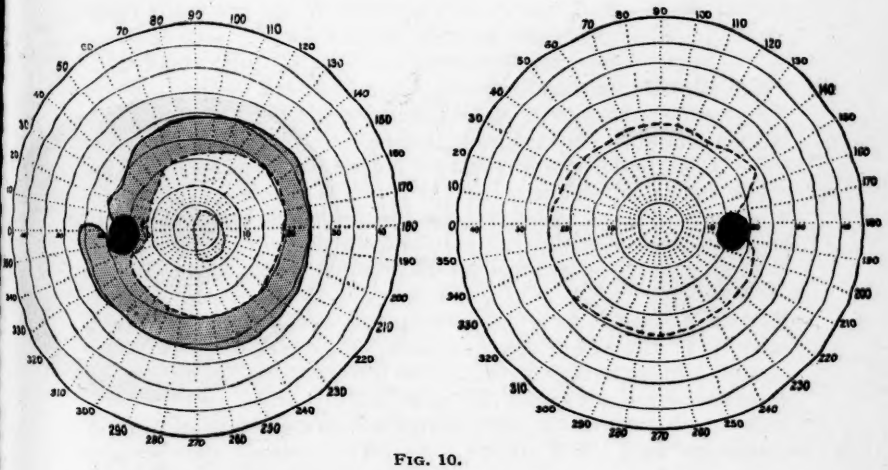


FIG. 10.

3/2,000 red is almost entirely nasal. Red objects above 3 mm. and below 10 mm. gave a relative temporal colour defect at this distance, those of 10 mm. and over showed no defect.

June 28, 1922.—R.V. 6/4; L.V. 6/4 all but one letter. Discs practically normal, physiological cupping well marked; left

slightly paler temporally than right but nothing definitely pathological.

Fields, Fig. 11. Complete restoration of right central field:

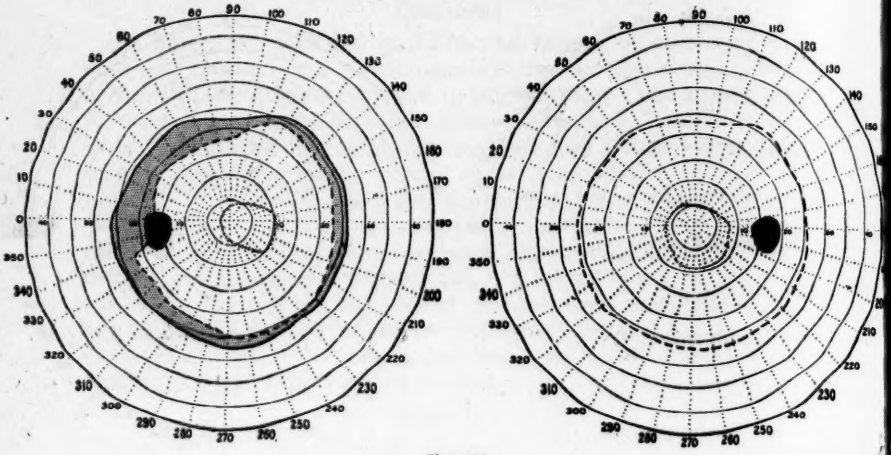


FIG. 11.

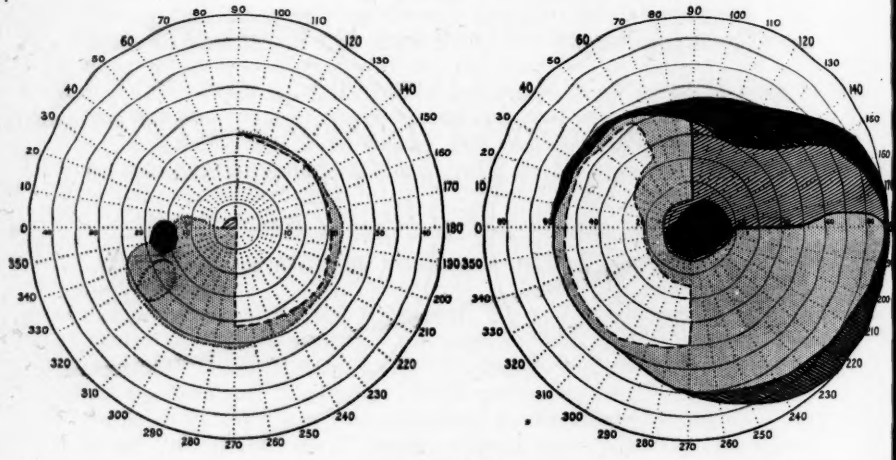


FIG. 12.

left shows restoration of the 2/2,000 isopter but still slight contraction temporally of the 1/2,000 isopter and hemianopia for 3/2,000 red.

January 17, 1925.—Patient writes to say that she has had no trouble with her eyes but had "one or two slight bilious attacks"

in the winter of 1923-24. Since then she has had appendicitis and more recently cystitis, but is now "fairly well."

Comment

This case ran its course practically within a month. The very slight changes in the right field suggest that the focus was in the left anterior angle of the chiasma near its junction with the optic nerve, where one crossed bundle might be affected with but little implication of the other. Note here also the sex and age of the patient and the absence of peripheral changes in the fields; also the headaches and "bilious attacks."

Case III

Mrs. X, aged 24 years.

May 16, 1923.—Two weeks ago, patient noticed that she was unable to read. She was already aware that the sight of the right eye was not good but did not know when it began to fail, she thought within the last four years. Married six months, no conception, no menstrual difficulties. Nasal haemorrhage eighteen months ago. Feels very well apart from her eyesight. R.V.=1/60 excentrically. Disc pale, partially atrophic in appearance especially on the temporal side. L.V=6/6. Disc slightly swollen, physiological cup filled up, veins engorged, outline hazy. Sella turcica normal in size. Wassermann reaction negative.

The fields (Fig. 12) are of bitemporal hemianopic type. The right field shows a dense central scotoma breaking into the upper outer quadrant. The nasal field is best preserved. Objects 10, 5,1/330. The left field is normal peripherally; only the central area was charted and shows complete hemianopia for 1/2,000 white with a denser scotoma in the apex of the upper outer quadrant. For 60/2,000 red only the upper outer quadrant is completely defective, in the lower outer quadrant this object is fairly well seen, best in the small enclosed area, but not so well as on the nasal side.

May 23.—Patient has been examined by Professor Bramwell who found no evidence of nervous or other disease. The right field was not closely examined on this date but showed little change to grosser tests. The left field (Fig. 13) shows the development of a large relative temporal hemianopic scotoma around the smaller one previously present. Objects 1,3/330; R.V. 1/60 excentric; L.V. 6/6.

May 30.—R.V.=counting fingers excentrically at 1 m. best in upper inner quadrant. L.V.=6/9. Disc shows commencing oedema. Fields very much as on 23rd.

June 6.—Patient feels better and thinks the vision of the right eye is improving. R.V. still only equal to counting fingers at one

metre excentrically but block letters half an inch high can be read if held close enough. L.V. 6/6 with ease. Optic discs unchanged.

Fields. The right field was not carefully tested; it appeared to be unchanged in type though less defective. The left field shows no defect for 1/330 but an upper outer quadrant loss for 5/330 red (Fig. 14). With 1/2,000 white some faint recovery of the temporal field was found.

June 20.—R.E. Although distant vision remained as on June 6 near vision had improved to ability to read Cowell 4.8m.; L.V. 6/6. Left optic disc normal in colour but veins slightly turgid, right disc unchanged. Fields, Fig. 15. The defect in the right

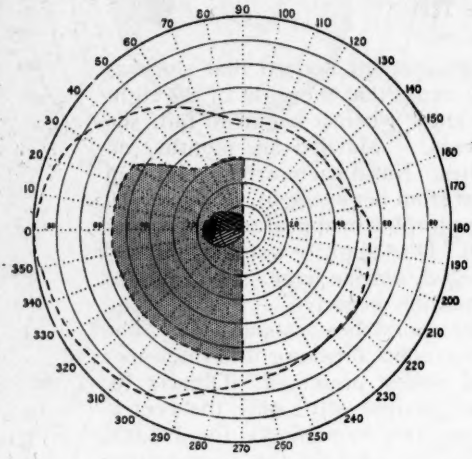


FIG. 13.

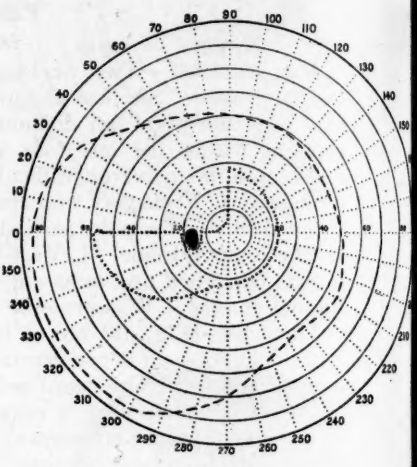


FIG 14.

field is smaller than before, temporal and hemianopic in type but extending centrally into the nasal side. In the left field the periphery is normal, the central part shows a quadrant defect for red 5/330 and for white 1/2,000, with a temporal hemianopic scotoma, denser in its upper quadrant, which spares the fixation point by about 0.25°. In the quadrant defect the visual loss for 1/2,000 white is only relative near the vertical meridian suggesting commencing recovery.

July 9.—Patient considers that during the last three weeks her eyes have been "well." On June 21 she had a peculiar "turn." She seemed to lose all power and this was followed by numbness lasting two or three hours. She has had three or four "weak turns" since then. Occasionally her hands get numb and cramp occurs in her legs and she sometimes feels tired.

R.V. 6/80 excentric; L.V. 6/6 all but two letters.

Both fields show further improvement (Fig. 16). The scotoma in the right field is smaller with a denser central part. In the left

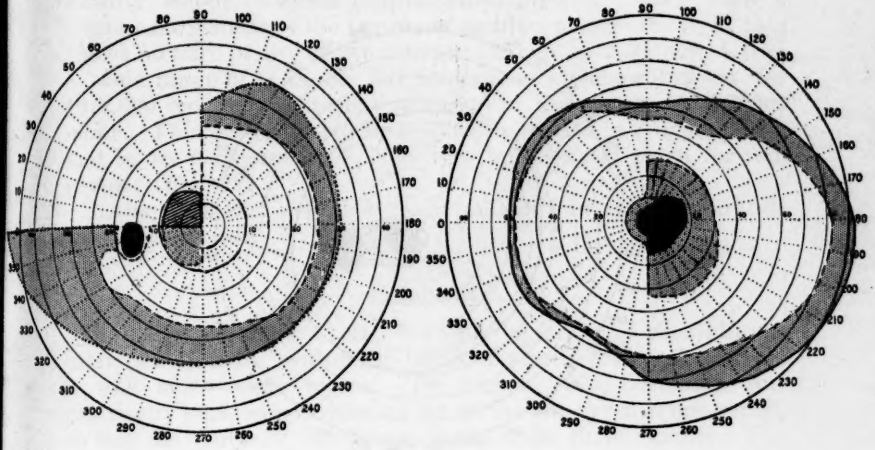


FIG. 15.

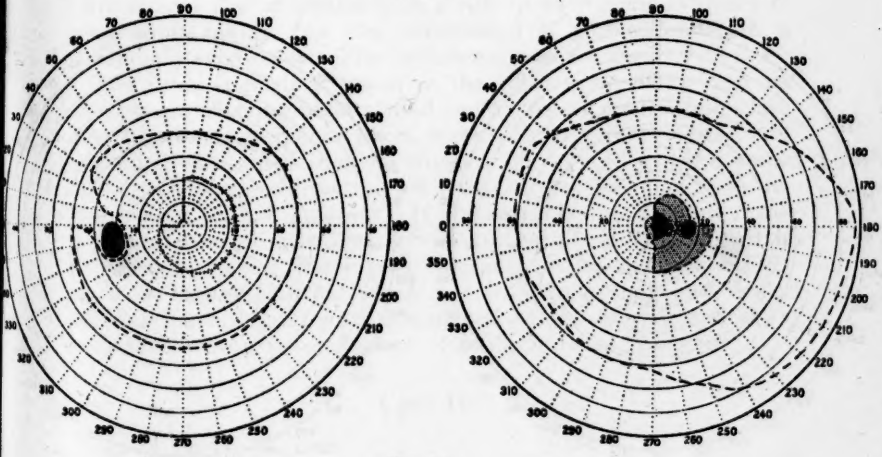


FIG. 16.

field (central area only shown) the isopter for 1/2,000 now nearly surrounds the blind-spot though the upper outer quadrant is still demonstrable by a red object if small enough.

August 8.—Improvement continues. R.V. 6/80; L.V. 6/6; optic discs as previously.

The most striking change is the rapid improvement in the right field. The periphery for 1/330 is normal; Fig. 17 gives the central field for 2/2,000 showing a hemianopic centrocaecal scotoma over-

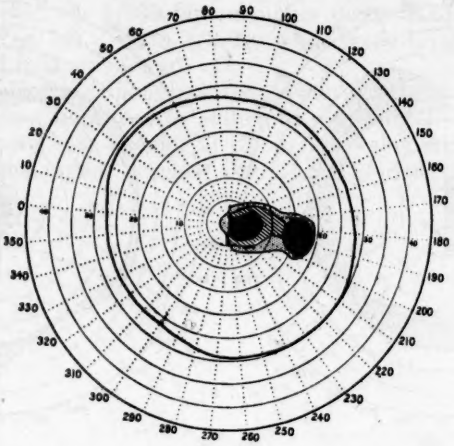


FIG. 17.

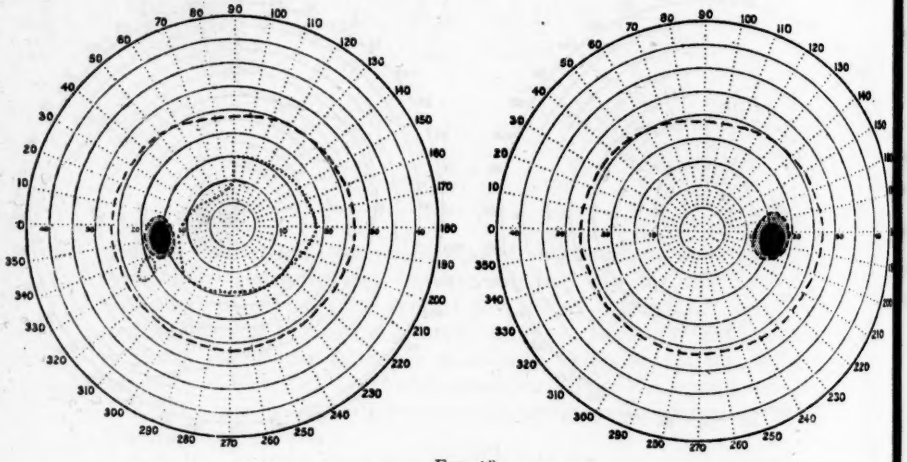


FIG. 18.

lapping the fixation point. The scotoma is smaller for 20, smaller still for 30/2,000. The central field was still too depressed for the use of a 1/2,000 test. The left field showed no defect at this date.

March 3, 1924.—Patient feels very well, has noticed no abnormal sensations or symptoms of any kind. R.V.=6/6; optic disc greyish

and rather uniform in colour; L.V.=6/6; optic disc very nearly quite normal in appearance but shows a slight greyish tint throughout, which partly replaces or appears added to the normal healthy colour. Fields (central only) Fig. 18. Apart from a slight enlargement of the pericaecal amblyopic zone the right field shows no trace of any defect either at 330 mm. or 2,000 mm. Using a wide range of tests, the left field shows a temporal defect for 10/2,000 red, but complete restoration of the isopter for 1/2,000 white. This defect for red was evidently missed in August, 1923, and is not a recurrence. Note the little isolated patch for red, compare Fig. 12.

January 20, 1925.—Patient has a baby of four months and feels well in every way.

Comment

Although the patient could not date the failure of the right eye more closely than "within the last four years" it is probable that it was much more recent. By August, 1923, resolution was practically complete, at least as far as the left eye was concerned, so that the course of the disease lasted about three months. The complete recovery of the right field in the presence of a pathologically altered disc is unusual; as a rule in such cases evidence of conduction failure can be ascertained if the examination is sufficiently exhaustive. The light sense was not tested.

The fields indicate a lesion in the right optic nerve near its termination affecting both crossed and uncrossed central fibres and also the crossed peripheral fibres, especially the ventral bundle, and extending backwards into the chiasma far enough to catch some of the crossed fibres from the left retina, especially those from the lower inner retinal quadrant. If one assumes that this inference is correct these observations provide further clinical evidence that the ventral crossed fibres cross anteriorly in the chiasma. This view is opposed to that which was tentatively suggested in a previous paper[3] (and since abandoned by the writer), and is in accordance with the conclusions of Wilbrand and Saenger.

Case IV

Mrs. J., aged 36 years.

Seen June 1, 1921. Between two and three weeks ago she suddenly found that she could not see objects at a distance on her right hand side and could not see to read. No other symptoms were present. She is and has been quite healthy but suffers from headaches between the eyes which get easily tired.

R.V. 6/9; L.V. 6/9; letters to the right are missed occasionally.

With correcting lenses for myopic astigmatism vision R. and L. =6/6 part. Fundi normal. Fields, Fig. 19. There is some incongruity possibly partly due to the fields having been very rapidly done; the findings were not checked or confirmed in any way. The field changes consist of a homonymous hemianopic quadrant scotoma with a relative peripheral defect (objects 5, 1/330) and suggest a lesion in the upper part of the left tract rather than in the cortex or radiation.

The patient returned to her home in the country immediately after the consultation. The correction of the astigmatism relieved the headaches at once and the hemianopia disappeared in a week

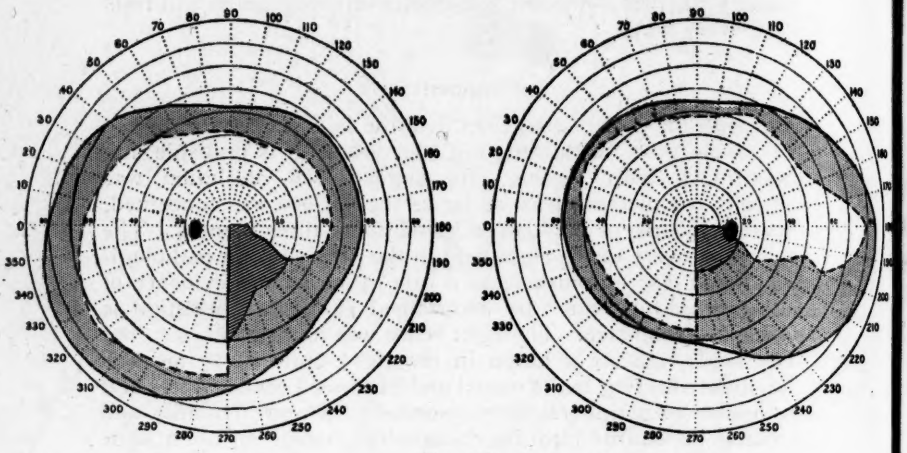


FIG. 19.

or two. When last heard from in March, 1924, her health had been uniformly good and her eyes had given no further trouble.

This appears to be an example of the same disease affecting a tract. Unfortunately owing to the patient's hurried visit further investigations were not possible, but the subsequent history and the information received from her own doctor suggest that, as in Cases 2 and 3, no abnormal conditions would have been found.

It will be seen that the features of these cases correspond closely to those recorded by Roenne and to those of the usual type of acute retrobulbar neuritis. All four cases occurred in women of ages varying from twenty-one to thirty-six years, the average being nearly twenty-eight. None showed at the time, or developed subsequently, any definite evidence of nervous diseases, the duration of observation having been two, three and a half, four, and thirteen years. Two of the cases complained of headaches and "bilious attacks," the others appeared to be in perfect health.

The field changes were characterized by pronounced central defects and relatively little peripheral disturbance. In the bitemporal cases the peculiar variation of the intensity in the apices of the different quadrants, typical of chiasmal scotomata, was well shown.

No marked swelling of the optic papilla was seen though this had evidently existed on the right, and was slightly present on the left side in Case III. Pallor of the discs was noted in two cases only (I and III). Practically complete visual recovery occurred in all, only the merest traces of previous disturbance being discoverable in the fields.

Pathology.—We may accept the view of Roenne[1] that these cases ". . . . are to be regarded as inflammatory or degenerative conditions, which have their starting-point in the chiasma or tract and form a group of certainly existing but little known primary lesions in this part of the visual path." The disease may be looked upon as related more or less closely to multiple sclerosis and to the optic neuritis which occurs in acute myelitis.

The occurrence of "bilious attacks" in two of my cases may have been a coincidence or may have some aetiological relationship, but on the basis of such a small material it would be unprofitable to indulge in speculation in this connection.

Diagnosis.—The recognition of the existence of this type of "retrobulbar neuritis" is essential in connection with diagnosis in the large group of conditions, which give rise to conduction interference in the subgeniculate visual path, and it is probable that, if exhaustive analysis of the field defects in cases of retrobulbar neuritis were more commonly practised, cases of this type would be more frequently found than they are at present. Since the changes in the less affected field may be minimal in degree and may not be betrayed by subjective disturbance appreciable by the patient, the apparently normal field in cases of retrobulbar neuritis, which seem to be unilateral, should be rigorously scrutinized by delicate tests. "Full vision" by Snellen's test with "normal field limits" may exist along with pathological field changes. Once the true character of the field changes is demonstrated the problem of diagnosis consists in the exclusion of other possible causes of interference in this part of the visual path. Of these local pressure —tumours or aneurysm—is one of the most important, and the diagnosis may be difficult if the case is only seen once and at an early stage. Only those tumours, which cause no symptoms other than visual loss and headache and no radiographic changes, are likely to cause confusion and in this small group the persistence and increase of the headaches and visual defects and the progressive involvement of the peripheral fields are of assistance. Although alterations in the field changes often occur in tumour cases, the

fleeting, rapidly variable, character of the defects typical of this disease is absent. Ophthalmoscopic evidence is of little determining value as the fundus may be normal or the disc may show various degrees of swelling or moderate pallor but neither complete whiteness nor persistent choked disc of intracranial pressure type occurs. In localized syphilitic basal meningitis bitemporal hemianopia with headache may be occasionally the only or almost the only symptom, but the field changes are grosser and other evidence is practically always forthcoming.

When the field defects are homonymous it is necessary to exclude a suprageniculate lesion. The presence of incongruity is of assistance here and also the character of the field defects; for suprageniculate lesions, apart from injuries and certain vascular conditions in the visual cortex, very rarely if ever cause central defects especially of a variable character. Apart from this the diagnosis from tumour and syphilis affecting the tract is based on the same considerations as in the case of the chiasma.

Prognosis and Treatment.—As in retrobulbar neuritis of the usual type the prognosis as regards recovery of sight appears to be excellent but should be guarded in respect of later development of nervous disease. Similarly, no special form of treatment is indicated.

REFERENCES

1. **Roenne.**—*Klin. Monatsbl. f. Augenheilk.*, 11. S. 446, 1912.
2. **Idem.**— *Ibid.*, II. S. 68, 1915.
3. **Traquair.**—*Brit. Jl. of Ophthal.*, April, June, 1917.
4. **Idem.**—*Trans. Ophthal. Soc. U.K.*, Vol. XLIII, p. 480, 1923.

TWO CASES OF NON-TRAUMATIC CYSTS OF THE ANTERIOR CHAMBER

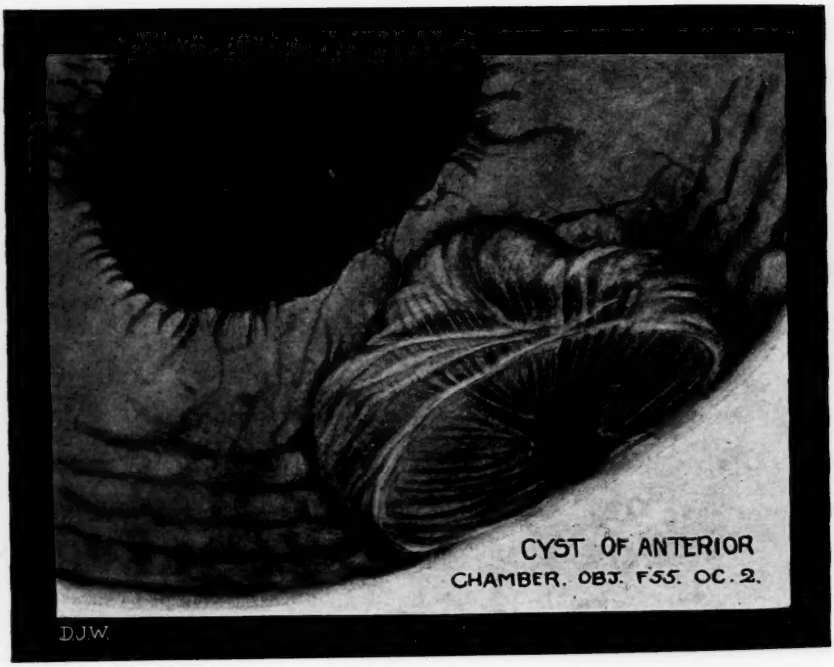
BY

D. J. WOOD

CAPE TOWN

ALTHOUGH I have found several records in the *Transactions of the Ophthalmological Society* of clear cysts of the anterior chamber, they are very uncommon, and until two years ago I had never seen a case. My excuse for describing these two cases is that I have been able to examine one of them with the slit-lamp, and am able to describe their appearance when magnified.

Both cases occurred in girls, both were in the right eye, and both in the same place, the lower inner quadrant. Any history of injury was definitely denied, and careful slit-lamp examination of the cornea and neighbourhood showed no trace of it. Both


CYST OF ANTERIOR
CHAMBER. OBJ. F55. OC. 2.
DJW.

girls were in good health; the younger was a little defective mentally. The younger girl, Eda B., an Italian, aged 11 years, was seen in May, 1922, and the elder girl Miss R, aged 19 years, came a week later. The latter only noticed the cyst when it began to distort the margin of her pupil, viz., for about two years; the younger case had shown the peculiarity for five years; in each case there had been only a slight increase in size.

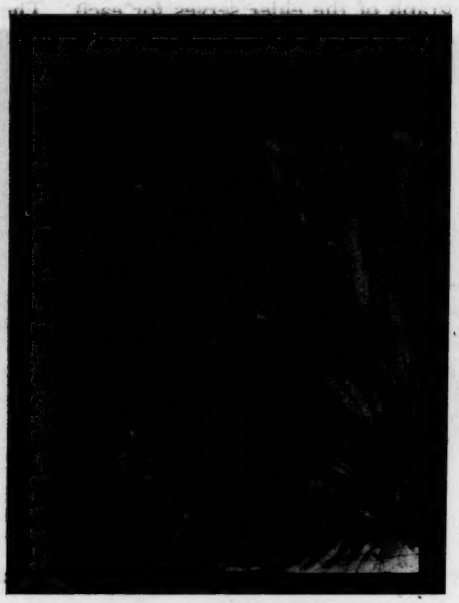
The naked eye appearance was very similar in the two cases and a photograph of the elder serves for each. The lower inner quadrant of the anterior chamber was occupied by a transparent

Cyst of Anterior Chamber. Miss J. R. July, 1922.

rounded cyst, reaching to and flattening the edge of the pupil, and bordered there by concentric curves of iris tissue. There was no visible structure in the slate-grey background, except a darker spot at the lowest part. There was no light reflex through any part; vision was very good; there was no pain or increase of tension.

As the elder girl considered the condition a deformity I decided to rupture the cyst. This was done by a discission needle, though the cyst wall was tougher than I expected. The cyst collapsed at once, and I was able to push the iris stroma down over the background so that nothing was visibly wrong when the pupil was dilated, and very little when it was not. The cyst had split the iris into its two layers, the uvea forming its back, the stroma being displaced up towards the pupil.

For six weeks this state of affairs lasted, and then quite suddenly the cyst re-appeared in its former size. As I had not at that time received my slit-lamp, and assuming that the cyst was liable to cause trouble I attempted to remove it. An incision through the limbus at the site of the cyst resulted in collapse, but not prolapse, and it was impossible to see the cyst wall. I pulled out something but it brought out the iris stroma, which had to be cut off, while



Detail of Cyst. Obj. A2. Oc. 2.

a part of the uvea followed, and had to be also removed, mainly as debris. A small coloboma was left but vision was not impaired.

As others have found, the fragment was so tangled up that the relation of parts was difficult to follow. The cyst wall is a clear firm membrane staining red with van Gieson's stain, and is covered by a layer of cells which, though they are not regularly hexagonal, resemble closely those on Descemet's membrane, both in size, and in their large nuclei. They appear in all parts, however, of the sections except in the uveal tissue, but do not form layers. There is no trace of epithelial debris. From October, 1922, no return was visible till somewhere early in 1924. Seen in May there was a definite return. Most of the cyst was still

covered by iris, and the small coloboma was obliterated. No discomfort and good sight.

After the discission of the cyst in this patient, I saw the younger girl, August, 1922, and to my surprise the cyst had vanished, the only trace being a small dark spot in the extreme angle of the anterior chamber. There had been no injury to the eye, nor was the patient aware when the cyst had ruptured. The pupil was practically round. In November, 1923, the patient was got back for examination with the slit-lamp, and I found the cyst had returned, and looked just as it did when first seen.

The drawings give but a poor idea of the beauty of the cyst as seen under slit-lamp illumination. The details were very fine, the appearance altered according to the angle of illumination, and the patient was extremely unsteady.

The cyst had intruded itself between the uvea and the stroma of the iris, the former being the posterior wall, the latter the back part of the roof. The front is formed by the cornea which showed a fine stippling, probably endothelial, and a few lines like wrinkles, possibly produced when the cyst was smaller.

The posterior wall shows a beautifully scalloped structure. There are six main divisions separated by well-defined ridges, making the cyst look like a parachute rather than a balloon. Each segment is in turn divided by finer, closely set, radiating ridges, with sharp edges and rounded grooves between. These grooves are covered with fine close transverse lines.

All the ridges start abruptly from a small area of flat uveal tissue in the centre of the lowest part of the cyst, and extend upward as far as where the cyst separates from the iris. From this point the cyst is smooth and rounded, and passes over to the cornea. The part next the iris is lightly pigmented by iris tissue drawn out over it and ending in a line or wrinkle on the cyst roof. The pigment stops where the roof reaches the cornea. The centre of the lowest part of the posterior wall consists of a rounded area of uvea, darkly pigmented below, stippled with white above. On it can be seen fine radial vessels which branch towards the pupil, and which can be traced for a short distance over the posterior wall.

There is thus a suggestion that the ridges are due to the resistance offered by blood-vessels, larger or smaller. It is at least not clear how otherwise they could be formed.

The appearance also suggests that the cyst must have arisen from the very angle of the anterior chamber, probably from the pectinate ligament. There is no indication that it has been formed by obstruction of iris crypts, as it is behind the stroma. The whole appearance is also quite against its being due to traumatism

The slit-lamp indicates clearly the reason for failure to remove the cyst without the iris; even on the roof the connection is close, and though it is impossible to see the true wall of the cyst except on the roof, yet it must undoubtedly extend all over the back and front.

In spite of my first failure I think that extensive rupture of the cyst wall, either by free discission or by the removal of a part of the cyst roof would be a better treatment than attempts at total removal. With a more complete idea of the structure of the cysts, such as one gains from examination with the slit-lamp, it would seem impossible to remove the whole without a very extensive operation, and perhaps not even then. How far these cysts do any harm is not clear. They grow slowly, and sometimes at all events rupture spontaneously. I have not been able to find records of the subsequent histories of the recorded cases, and it would seem possible that some returned slowly without causing symptoms.

REFERENCES

Treacher Collins.—"Cysts of Iris." *Roy. Lond. Ophthal. Hosp. Rep.*, Vol. XIII.
Benson.—*Trans. Ophthal. Soc. U.K.*, Vol. IX, p. 56.
Morton.—*Trans. Ophthal. Soc. U.K.*, Vol. XIII, p. 58.
Juler.—*Trans. Ophthal. Soc. U.K.*, Vol. XIII, p. 60.
Pisani.—*Trans. Ophthal. Soc. U.K.*, Vol. XXXII, p. 56.
Whitehead.—*Trans. Ophthal. Soc. U.K.*, Vol. XXIV, p. 78.

Mentioned in the above :

Schmidt-Rimpler—*Arch. f. Ophthal.*, Vol. XXXV.
Nadal.—*Arch. d'Ophtal.*, 1911.
Juselius. - *Klin. Monatsbl. f. Augenheilk.*, September, 1908.
Gallemaerts.—*Arch. d'Ophtal.*, 1907.

CYST OF THE IRIS

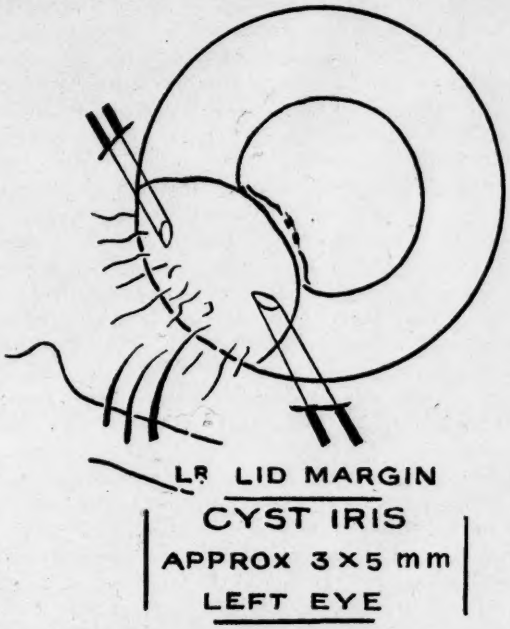
BY

MAJOR R. E. WRIGHT, I.M.S.

SUPERINTENDENT, GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS

T., Hindu female, aged 20 years, came to Hospital on July 31, 1924, complaining of pain and dimness of vision in the left eye. On inquiry it appeared that she had a defect of sight with nystagmus from childhood. Twenty days before attending she sustained an injury, with the finger nail, in the left eye, which was attended by slight bleeding. The vision of the left eye was fingers at 4 metres, not improved with lenses; that of the right eye 6/60, with a plus 4.5 sph. = 6/36, no improvement with cylinders. On inspection of the left eye there appeared to be a dull haze in the inferior nasal quadrant of the cornea like a deep keratitis. There was increased vascularity at the limbus in this region and for some distance on

either side. On more careful examination it was observed that the corneal haze obscured a cyst of the iris about 3 × 5 mm., in shape and position (relative to cornea and pupil), as represented in the diagram. The remaining cornea and limbus appeared normal. Where the pupil was indented by the cyst there were posterior synechiae. With the corneal microscope it was seen that the cyst abutted against the cornea in front, giving rise to the opacity above noted. The cyst lining was thin, as with careful illumination the



iris deep to the cyst and forming its posterior boundary could be seen. Centrally a delicate membrane dotted with fine pigment granules ballooned into the anterior chamber. While examining with the corneal microscope, during the movement of the lids it was noted that three fine lashes near the punctum curved inwards and rubbed on the corneal edge just over the lower and inner aspect of the cyst. No evidence was forthcoming, however, that a hair had become embedded. The tension was taken daily for a period of ten days starting on August 17, 1924, and remained constant at R.E.T.=30; L.E.T.=28 (McLean), except on August 18, 1924, when for no obvious reason it was registered at 34 in the right eye and 30 in the left eye. Records of the treatment of iris cysts in the literature at my disposal did not seem very encourag-

ing. Iridectomy, tapping, trephining and so on had all been tried without good results. It appeared that the great difficulty was to get rid of all the cells lining the cyst and so prevent a recurrence. I decided after considerable thought to try the effect of killing the cells of the lining membrane *in situ*. The cyst wall was evidently very simple, possibly a single layer of cells. It was considered that if the cyst could be filled with pure carbolic and then emptied and washed out, that the end in view would be accomplished. This was carried out on August 28, 1924, as follows: Two small bore needles were chosen with sharp chisel points and of short length, but of different bores. These were fitted on two Alston syringes (Dental Manufacturing Co.). It is necessary to have very fine sharp, short needles (say 1 cm.); fairly large, easily handled syringes with perfectly smooth working plungers. One syringe was filled with normal saline, the other carrying the needle of larger bore was kept empty. The needles on their syringes were then introduced into the cyst subconjunctivally and from opposite directions (for the sake of convenience and steadiness). The empty syringe was used to aspirate the cyst, very delicately. It was then detached from its needle, emptied and a few minims of pure carbolic taken up. This was introduced into the cyst in quantity necessary to fill it and straightway aspirated. The other syringe was then operated, filling the cyst with saline, which was immediately withdrawn by the carbolic containing syringe, and so on till it was considered that no free carbolic was left in the cyst. The needles were withdrawn, atropin instilled, and the eye bandaged. The reaction was comparatively slight; atropin was pressed and after a week it was apparent that the region of the cyst was contracting and the pupil rounding off where it had been indented.

On October 10, 1924, six weeks after the operation, examination with the corneal microscope showed that the cyst was completely collapsed and no lumen could be detected. There was an opaque film on the back of the cornea and apparently an anterior peripheral iris adhesion at the angle. There were delicate posterior synechiae in the position before referred to and a deposit of fine pigment granules on the anterior lens capsule. When the pupil was allowed to contract it was round, and the vision was 6/36 with correction.

On January 22, 1925, the pupils were equal and active; a layer of pigmented deposit lined the back of the cornea near its periphery in the position formerly occupied by the cyst. A few delicate thread-like anterior synechiae were present in this region and the iris appeared irregularly depigmented. The vision with lenses was 6/36 each eye. The tension was 30 in the right eye and 32 in the left eye (McLean). After dilatation with homatropin, a point of adhesion between lens capsule and iris showed up. Dilatation did not alter the tension.

ANNOTATION

Future International Ophthalmological Co-Operation

At a general meeting of the recent Convention of English-Speaking Ophthalmological Societies the re-establishment of International Ophthalmological Congresses on the pre-war basis was considered.

The President of the Convention, Mr. E. Treacher Collins, described how in 1922, at the International Congress of Ophthalmology held in Washington, he had presented an invitation on behalf of all the ophthalmological societies of Great Britain and Ireland to hold the next Congress in London in the year 1925. This invitation was accepted with the provision that the Congress was to be strictly international, and that the German language should be an official language amongst others.

A general committee, consisting of representatives of the inviting societies, then formed an executive committee empowered to make arrangements for the Congress on these lines. It issued an announcement in the ophthalmological journals of different nations that: "Invitations would be sent to the principal ophthalmological societies or other representative bodies in every nation, asking them each to nominate a delegate to the Congress who would be responsible for promoting its interests in the country which he represented, so as to endeavour to make it a great reunion of all those interested in ophthalmology throughout the world."

Later the Committee was informed that the Société française d'Ophtalmologie, the Société d'Ophtalmologie de Paris, and the Société belge d'Ophtalmologie had passed resolutions to the effect that they felt themselves unable to participate in a Congress if Germans were invited.

The Committee then announced that to proceed with the Congress under these circumstances, would in its opinion, tend to perpetuate a schism in the ranks of ophthalmology and militate permanently against the progress of the science which all desired to promote. The Committee, therefore, reluctantly decided to postpone the Congress.

The present Convention of English-Speaking Ophthalmological Societies had been inaugurated as an entirely separate and independent departure.

The question now before the meeting was, he said, whether anything could be done to promote further international intercourse in ophthalmological matters there and now.

Dr. Lucien Howe then proposed a resolution, seconded by Dr. Ring, which after much discussion and some amendment, was passed *nem. con.*, and read as follows:

"Resolved that this Convention of English-Speaking Ophthalmological Societies hereby empowers its President, Mr. E. Treacher Collins, to appoint a standing committee of five of which he shall be chairman. The duty of this committee shall be to obtain such co-operation as is possible from representatives appointed by the various National Ophthalmological Societies in the promotion of an International Ophthalmological Congress."

In the course of the discussion, the President being invited to express his own views on the resolution said: "Ophthalmology was one of the first branches of medicine to institute International Periodical Congresses, its first International meeting having been held in Brussels in 1857. The records of its different meetings in different parts of the world were of a most inspiring character and he hoped he might live to see another meeting conducted on similar lines. At the conclusion of one International Congress, in accordance with its rules, it was the custom, after having fixed a place for the next meeting, to nominate a provisional committee with powers to make all further necessary arrangements. In connection with the abortive meeting which was planned to have been held at St. Petersburg in 1914 no such committee could be appointed.

He thought it was most desirable that a committee should be now appointed who should, so to speak, hold a watching brief. He would much rather that the initiative in the matter should have been left in other hands than his, but if it were the general wish of the meeting he would endeavour to carry out the onerous duty to the best of his ability."

Some discussion took place as to the date at which any future Congress should be held, but it was generally agreed that nothing definite could be fixed at present and the matter should be left for consideration by the committee.

A large section of those present at the meeting were of opinion that if a body of delegates representing different national ophthalmological societies could be formed, there were other matters which might be referred to it for consideration, besides the re-establishment of international congresses.

It was proposed by Dr. Lucien Howe, seconded by Dr. Campbell Posey, and carried, that: If such a body were formed it should be asked to consider:

(*a*) The aiding or initiating of measures likely to prevent the dissemination of diseases of the eye, and the lessening of hereditary blindness.

(*b*) The establishment of uniform methods of recording the results of visual tests and other methods pertaining thereto.

(*c*) The interchange of ophthalmological literature.

The President, in his opening address to the Convention, laid stress on the importance of international co-operation for the elimination of eye disease. He pointed out that the Red Cross Societies with their International Committee were the first formed international associations dealing actively with medical matters. Instituted primarily only for aiding armies in the field and prisoners of war, their work had been extended to deal with epidemics and other disasters. The new International League of the Red Cross Societies, founded in 1919, is devoted to a peace-time programme of preventing disease, mitigating suffering, making known new medico-scientific knowledge and co-operating relief work.

The health department of the League of Nations is also undertaking useful investigations with the view of checking the spread of diseases.

Of late years in different countries, and notably in this country by the Council of British Ophthalmologists, efforts have been made to establish uniform methods of conducting and recording tests of vision. The desirability of methods of this sort becoming adopted internationally is unquestionable.

At the International Congress at Washington in 1922 a committee was appointed to consider, "The standardization of methods of perimetry." It has drawn up an interim report which the general meeting of the Convention considered might most appropriately be handed over to the body of delegates from various national ophthalmological societies when formed.

The literature of ophthalmology grows and will continue to grow with increasing rapidity. Anyone who contributes something of value is anxious that his communication should receive world wide recognition. Anyone investigating a subject is anxious to ascertain as easily as possible what has been done in connection with it by previous writers. For these two reasons the establishment of year-books containing as complete and as full an epitome of ophthalmic literature as possible are of the greatest value.

If, by international co-operation, such an authoritative work could be published, containing an epitome of the ophthalmological literature of all nations, and translated into three different languages, it would have a wide circulation and prove an inestimable boon to all ophthalmologists.

COUNCIL OF BRITISH OPHTHALMOLOGISTS

Annual Report

THE Council of British Ophthalmologists presents its report for the Session, 1924-1925.

The Council deeply regrets the loss it has sustained through the death of Sir Anderson Critchett. Sir Anderson played an active part in the foundation of the Council and held the office of President during the first two years of its existence. He remained a member of the Council and took a keen interest in its proceedings until the end of his life.

At the first meeting of the Session the following officers were elected:—President: Mr. E. Treacher Collins; Vice-Presidents: Sir George Berry, M.P., and Mr. J. Herbert Fisher; Hon. Treasurer: Mr. J. Herbert Fisher; Hon. Secretary: Mr. W. H. McMullen.

The following members were elected to serve on the Executive Committee:—Messrs. Fisher, Lawford, Mayou, and Sir John Parsons, with the President and Secretary *ex officiis*.

The question of the administration of optical benefit by approved societies under the National Health Insurance Acts has continued to engage the constant attention of the Council. In order to secure close co-operation with the British Medical Association a committee was appointed consisting of three members of the Association and three members of the Council. This Committee drafted a scheme for administration of ophthalmic benefit and submitted it to the Ministry of Health. At a later date three representatives of the newly constituted "Ophthalmic Benefits Committee" were added to the committee. As a result of prolonged negotiations between this joint committee and the Ministry of Health arrangements have been made for the administration of ophthalmic benefit, of which particulars have appeared in the BRITISH JOURNAL OF OPHTHALMOLOGY and other medical journals.

A Royal Commission on National Health Insurance having been appointed, the Council applied to give evidence. It submitted its report on sight-testing by opticians and the conclusions arrived at with regard to the provision of ophthalmic benefit by approved societies. Three members of the Council appeared as witnesses before the Commission.

The Council has published a report on the institutional treatment of interstitial keratitis. A copy of the report was sent to the Ministry of Health. The Council is pleased to state that, as a result, an instrument has been issued by the Ministry authorizing the Metropolitan Asylums Board to receive and treat cases of interstitial keratitis at their institution, White Oak, Swanley.

The report of the Council on standards of vision for candidates for scholarships and teacherships under Local Education Authorities was submitted to the Board of Education. It was published in the official journal of the Department, and the Council has been informed that the standards recommended have been widely adopted by Local Education Authorities.

A Committee has been appointed to investigate the methods employed in various parts of the British Isles for the education of children suffering from defective vision due to myopia or other causes (excluding the blind).

Another committee has been appointed to consider what effect has been given to the recommendations of the Departmental Committee on the causes and prevention of blindness in respect of industrial diseases and accidents, and to advise the Council as to any further action the Committee thinks desirable.

The Committee on the standardization of test types has presented a report which it is hoped to publish at an early date.

A short account of the constitution and work of the Council since its inception in 1918 was published in the BRITISH JOURNAL OF OPHTHALMOLOGY (Vol. IX, p. 69). Copies may be obtained from the Secretary.

The expenses of the Council have been defrayed, as in former years, by its members.

The Council desires to thank the Council of the Royal Society of Medicine for the use of rooms for meetings.

THE CONVENTION OF ENGLISH-SPEAKING OPHTHALMOLOGICAL SOCIETIES

THIS Convention, a preliminary notice of which appeared in our issue of August, was an unqualified success. Under the able presidentship of Mr. E. Treacher Collins, the very heavy programme of work was gone through without a hitch. On the scientific side the interest remained high throughout, and the numerous social events were very much appreciated. The meeting was the first of its kind, and the common mother tongue enhanced its scientific interest and helped personal relationships. It clearly demonstrated that the nations represented, although not a unity, were, in things ophthalmological, a family with a common similarity of outlook.

The numbers attending exceeded the anticipations of the organizers, 735 members were registered, the most pleasing feature

of which was the large and representative quota of American visitors, 230 in number. The Colonies were represented by 13 delegates, and guests were present from Holland, Denmark, France, Switzerland, Hungary, India, and China.

The inaugural ceremony of the Convention took place on the Tuesday morning, in the Memorial Hall of University College, with the President in the chair. Mr. Collins called upon the Rt. Hon. Neville Chamberlain, M.P., to deliver an address of welcome to the visitors.

The Rt. HON. NEVILLE CHAMBERLAIN, the Minister of Health, said it was only a few days ago that on behalf of the Government he addressed words of welcome to an International Congress of Radiologists, a body practising the youngest of the applications of science to the art of healing. To-day he offered a similar welcome to veterans in this matter, whose studies extended back to the earliest times. He was told that the first international congress of ophthalmologists took place as long ago as 1857, and that the last congress of the sort in London was in the year 1872. August, 1914, was the date on which it had been intended to hold another Congress, but the war stopped that, as it did so many other things, and it had not yet been found possible to arrange another gathering whose scope was international, and the present one was restricted to English-speaking societies. While those present would regret as much as he did himself the absence of that wider scope, and the accompanying more varied treatment, there was some satisfaction in the fact that the proceedings would be conducted in a tongue understood by all the participants, and the Convention had brought together once more, and for a beneficent purpose, peoples from the British Dominions and from the United States, who were already united to us by such friendly ties. In the last seventy years, immense advances had been made in the science and practice of ophthalmology. He did not know whether that period was as epoch-making as that which witnessed the discovery of the ophthalmoscope, but in the knowledge of the minute anatomy of the eye and the discoveries in relation to the powers of accommodation and the marvellous accuracy of the instruments now available, as well as the relationship of ophthalmic conditions to diseases of a more general nature, in addition to the various discoveries in bacteriology, pathology and minute anatomy, the last fifty years had been a very prolific time in reference to this branch of medicine. Indeed, he did not think it would be an exaggeration to state that in the last half-century ophthalmology had been revolutionized. And a very important matter was that whereas fifty or less years ago this special service was restricted practically to the well-to-do, to-day it was within the reach of the

artisan and the labourer, and particularly had it been organized for the benefit of the children. The importance of this branch of medicine could not be exaggerated, because on the state of the vision depended the whole of a child's future career. Those who came from overseas might be interested to hear that practically every local authority which had to deal with education now made provision for the detection and correction of errors of vision. There were now 500 medical men so engaged, and 482 clinics for the purpose. And a further extension was provided by ophthalmic benefits under the National Health Insurance. In the increasing strain and hustle of modern life, our organs did not seem to change and adapt themselves rapidly enough, hence some of the disabilities. Under the presidency of Mr. E. Treacher Collins, whose name was so well known in all ophthalmological circles the world over and who was largely responsible for the organization of this gathering, the Convention was bound to be a triumphant success, and he believed that when those participating departed they would go armed with fresh vigour and with a new confidence in carrying on their warfare on behalf of the most precious of the special senses. He bade the Convention heartily welcome.

The AMERICAN AMBASSADOR (Mr. Houghton), on behalf of his fellow countrymen, expressed high appreciation of the kind words of Mr. Chamberlain and the welcome they conveyed; his unceasing efforts to encourage every movement having for its object the scientific investigation of disease was recognized and honoured by all. He also expressed admiration for the excellent programme, scientific and social which had been arranged. He thought it appropriate to utter a word of warning in regard to the social side of the gathering, remarking that there might be something in the world more gracious and kindly and delightful than an English welcome, but if there was he had not found it. Therefore he would say "Have a care!" He concluded by a humorous reference to the neglect of eye disease at home in the States when so many experts were enjoying themselves in Europe.

The following gentlemen, representing various co-operating societies, were then presented by the President to the Minister, and spoke a few words appropriate to the occasion: Dr. de Schweinitz, Dr. Walter Parker, Dr. Francis, Dr. Byers, and Dr. A. J. Hall.

Presentation of the Edward Nettleship Prize to Professor S. E. Whitnall, of Montreal

THE PRESIDENT said Bowman and Nettleship had both left deep footprints in the sands of time, and in commemoration of those great men there had been established a Bowman Lecture and a

Nettleship Prize. The Bowman Lecture this year would be delivered by Sir John Parsons, and the Nettleship Prize, which was awarded triennially, had been assigned to Professor S. E. Whitnall, for his monumental work on the anatomy of the orbit and accessory organs of vision. Amid considerable enthusiasm he presented the Prize to that gentleman, and Professor Whitnall briefly expressed his grateful thanks.

Inauguration of the Critchett Memorial Presidential Badge

MR. W. T. HOLMES SPICER explained that on the lamented death of Sir Anderson Critchett some of his friends thought it desirable to institute some kind of permanent memorial of that grand old man, which should also include that of his distinguished father. Father and son had practised ophthalmology for a total of nearly a hundred years. In the time of the former, the two outstanding figures on the staff at Moorfields were Sir William Bowman and George Critchett. The latter was not a prolific writer; his devotion lay on the clinical side of his work, and in devising and carrying out operations. Anderson Crichett was born into the ideal atmosphere for the practice of ophthalmology, indeed he might be said to have lisped ophthalmology. But he had certain difficulties to contend with, and one was a divided allegiance, for he was the possessor of a rich baritone voice, and had a great fondness for music. His singing was in great request, and there came a time when his father said to this musical son: "Now, Anderson, you must make up your mind which you will be, whether you will be a surgeon or a singer; you can't be both." And Sir Anderson related that, out of deference to his father's wishes, he became a surgeon, and after taking that decision he did not sing in public again. Mr. Spicer bore testimony to the kindness and geniality of Sir Anderson's character, and said that one of the greatest delights was to be one of the intimate circle to be invited to his dinners. Mr. Spicer said it was fitting that he should have the honour of presenting this Badge to his old master, Mr. Collins, who was a very kind master, and who taught him all about the pathology of the eye that he ever knew. He hoped the President would go on doing the good work on which he had been engaged for the last forty years. He then invested the President with the Badge, amid much applause, the audience rising.

The President's Address

THE PRESIDENT then delivered his address on "The elimination of eye disease," prefacing it by a word of welcome to those from overseas and other visitors to London.

He said that disease was to a great extent the failure of an organism to adapt itself to its environment, and for its elimination it was essential to know everything concerning the working mechanism of the organism and the varying conditions of its environment. He detailed a number of diseases in which the eye was involved.

In leprosy the eyes frequently became affected and the sight destroyed. In the early days, when there were many cases in this country, the strong measures adopted to segregate them were probably the chief factor in the elimination of the disease here. In the British Empire there was said to be still 300,000 cases of leprosy.

With regard to small-pox, in the first half of the 19th century from three-fourths to half the indigent blind who applied for relief had lost their sight from this disease, whereas in 1922 the Departmental Committee on Blindness could only discover six cases which could be attributed to that disease in the blind asylums.

Concerning ophthalmia, the contagious character of this condition was known to the Greeks 2,000 years ago. The micro-organisms which caused it were killed by drying, therefore the conveyance of infection due to them was only likely to occur while they remained moist. No specific organism had been associated with the intractable trachoma, but whatever the virus was it might also be killed by drying, and the application of measures based on this idea had largely eliminated the disease from the British Army and the Poor Law Schools of London, where it was formerly rife, and in 1903 no fresh case had been reported in the Army. That the disease was still virulently contagious, however, was testified in Poplar only last year, when there was an extensive outbreak of it in the L.C.C. schools there.

The protean manifestations of syphilis were a very common cause of eye disease at the present time, and the Departmental Committee already referred to, attributed 10 per cent. to 15 per cent. of the blindness of the country to this disease. He felt that in the contest with venereal disease man must eventually be the victor. He referred to several phases of the propaganda against it, and quoted figures showing a gradually declining incidence. He thought that the punishment of those who knowingly communicated these diseases to others should be made to fit the crime, *i.e.*, incarceration and treatment until freed from infection.

With regard to iritis, what was called "rheumatic iritis" was but rarely associated with articular rheumatism; the commonest joint affection associated with iritis was that due to gonorrhoea. Metastatic infection as a cause of iritis was insisted on energetically by Mr. William Lang, who in 37 per cent. of his iritis cases was able to find nothing amiss but pyorrhoea.

Dealing next with tubercle of the eye, Mr. Collins said statistics did not enable one to say whether the number of cases of tuberculous eye affections was diminishing, but both here and in the United States the amount of respiratory tuberculosis was decreasing.

The elimination of phlyctenular ophthalmia and keratitis was a social matter, intimately connected with over-population and overcrowding. Perhaps much could be done by bringing about exposure of these people to artificially-generated ultra-violet rays. Animals given food deficient in fat-soluble "A" vitamin were found to develop xerophthalmia and keratomalacia, the latter being now a rare disease in this country.

Some eye diseases seemed to be primarily due to tissue degeneration, and retinitis pigmentosa was probably one of these.

Myopia and the sequelae of choroidal atrophy and detachment of the retina the President regarded as a result of the present system of education, as it was unnatural to compel a young and growing animal to spend several hours daily poring over books, often under artificial illumination. The gramophone and cinematograph should be much more called into requisition, and oral teaching should be practised more extensively.

He proceeded to speak of the work of the Council of British Ophthalmologists, a parallel body to which had now been set up in the United States, under the direction of laymen, but with ophthalmologists on its board. Reference was also made to the scope of work of the International Committee of Red Cross Societies and of the League of Nations, and the President's final word was a plea for the international combat against disease as one of the surest ways to international peace.

The Scientific Programme.

The scientific programme was immensely crowded and interestingly varied. The proceedings will be published in detail in "The Transactions." It comprised some forty individual papers and two major discussions. A very pleasing feature was the large part taken throughout by the members from overseas.

The perennial subject of glaucoma was treated in several papers dealing with its clinical features, its diagnosis, and its pathogenesis. Under the latter head three theories were sponsored, an infective theory by Dr. Kerry (Montreal), an anterior drainage theory by Lt.-Col. Herbert (Hove), while Mr. J. H. Fisher (London) laid stress on the posterior lymph paths. The subject of cataract attracted several speakers. Dr. Knapp (New York) communicated the late results of his extensive experience of the intracapsular

method of extraction; Mr. Sinclair (Edinburgh) and Mr. Hern (Darlington) described the special modifications of this operation which they practise; Dr. Ziegler (Philadelphia) traced the history of discission, and described his latest technique by the complete V-shaped method; and an interesting and suggestive account of his promising results in the treatment of cataract by the exhibition of lens antigen was communicated by Dr. A. E. Davis (New York). Perhaps the paper which stimulated most interest and discussion was the account by Dr. F. A. Davis (Wisconsin) of the remarkable hereditary eye defects he has produced experimentally in rabbits by the injection of lens sensitized sera and pulped lens into pregnant animals. In his paper on pituitary tumours Mr. Sargent (London) advanced a strong plea for earlier operation treatment, and quoted results which abundantly justified his thesis, while Mr. Davenport (London) showed that other methods, such as radiation, should not be altogether neglected. Prof. van der Hoeve (Leiden) summarized the present position with regard to glioma, stressing its direct intracranial mode of spread. New therapeutic methods were discussed by Mr. Giri (Eastbourne), who dealt with non-specific protein therapy by milk injection; and Dr. Woods (Baltimore), who uses preparations of uveal pigment in the diagnosis and treatment of sympathetic ophthalmitis. Innovations in operative technique were described by Dr. Fox (Philadelphia) in the treatment of conical cornea by incision and suture, by Dr. Jameson (New York) in the treatment of squint by muscle recession, by Mr. MacCallan (London) in trichiasis and entropion, and by Mr. Thomson (Beyrout) in the treatment of dacryocystitis by dacryocystencleisis, whereby the sac is obliterated by an irritant injection. Several papers dealing with physiology, optics, and refraction were read, new instruments and appliances demonstrated, and a number of interesting and rare clinical cases described.

A major discussion on the Microscopy of the Living Eye was opened by Prof. Byers, Dr. Bedell, Mr. Harrison Butler, Mr. Graves, and Miss I. C. Mann. Each dealt with a special part of the subject, and were followed by Mr. Goulden, Dr. Pollock, Dr. Zentmayer, and others.

A symposium on "The Evolution of Binocular Vision" formed one of the most interesting items of the proceedings. It was opened by Prof. Elliot Smith, who spoke from the point of view of comparative anatomy. He stressed the fact that the attainment of binocular vision, with the consequent acquisition of a wider field and appreciation of detail, was the predominant factor in the evolution of man, and formed the substratum whereon his intellectual supremacy was built. The process of evolution was elucidated by the study of those surviving animals which nearly

approached the missing links in the organic chain of human descent. The main factors in the process were three: the recession of the snout, which rendered a binocular field possible; the growth of the dominating occipital cortex and the appearance of the macula, whose acquisition allowed the appreciation of detail, and thus was responsible for the development of the aesthetic sense, the arresting curiosity and craving for visual information, and the fuller satisfaction of the thirst for knowledge; and the development of the motor centres in the midbrain and the pre-frontal cortex, which controlled automatic conjugate movement of the eyes, the involuntary co-ordination of which was the pre-potent factor in the acquirement of skilled movement and the power of experimentation, and consequently of intellectual advance. Sir Frederick Mott dealt with the cerebral part of the subject, and showed the domination of the frontal over the occipital cortex; the agranular area of the former was reinforced by fronto-pontine-cerebellar impulses, and linked up with cerebral processes of association and synthesis in the highest levels. Prof. Whitnall traced the development of the muscular apparatus subserving the need of binocular vision, and followed the stages in the attainment of parallelism in the visual axes in place of divergence, and the further development of this into convergence. Sir Arthur Keith outlined the main changes undergone by orbit and skull. Objecting to the term binocular, as connoting a widely distributed condition, he suggested in its place bifoveate or bimacular vision. In his opinion the development of bifoveate vision did not depend on the recession of the snout, nor was it a necessary result of arboreal life; rather was it closely linked up with the methods of locomotion by springing, which was the dominant factor in the evolution of true primates. The true source of the superiority of man's vision lay not peripherally in the eye or skull, but in the brain. The bifoveata had to judge the distance from branch to branch, to estimate the safety of the support offered, and to see and appreciate beyond the first steps a succeeding series of footholds. The evolutionary machinery which had transformed the visual world was therefore exceedingly complicated, and involved not merely the eye and its peripheral motor apparatus, but all the parts concerned in visual interpretation and ocular co-ordination, and the connections of these centres with other sensory, motor, and psychic centres. When the process whereby man attained bifoveate vision had been elucidated, the most difficult problem of the whole of evolution would have been solved.

The Bowman Lecture

The Bowman Lecture, which was delivered by Sir John H. Parsons in the Memorial Hall on the evening of July 16, formed

the outstanding contribution to the proceedings of the Convention. Choosing as his subject "The Foundations of Vision," the lecturer evolved and elaborated the thesis that the physiological processes involved in vision, the anatomical basis of these processes, and their psychological counterparts, can be divided into two great groups, protopathic and epicritic; and further, that the conception was not limited to vision and to ophthalmology, but embraced the whole domain of the physiology of the senses, and the psychology which is the conscious expression of that physiology.

These terms were interpreted in the sense of the conception evolved by Head and Rivers in their work on tactile sensibility, but the detailed conclusions of these workers were not accepted. The protopathic response was concerned with those elemental processes on which existence and survival depended. It was, therefore, of vital import, primitive and undifferentiated in nature, and was endowed with that potential plasticity which permitted of differentiation along many lines. The epicritic was differentiated from and evolved out of the elemental protopathic. It was, therefore, of gnostic import, delicate and specialized in nature, and provided an active, dynamic plasticity in a narrower field. While retaining many of the characteristics of the cruder protopathic response, especially as regards its quality, it was better defined, susceptible of finer gradation, endowed with more accurate local signature and discrimination, less charged with affective tone, and possessed a richer and higher cognition. Being essentially utilitarian and necessary for survival, the protopathic response could not be wholly replaced by the more delicate epicritic; the two, therefore, existed side by side, the ultimate behaviour response being dominated by the psychological pattern built up by the integration of elements derived from all the senses.

This conception of a dual mechanism of vision was supported by anatomical evidence, by physiological experiment in man and on animals, and by clinical observations. Physiologically there were two main functions of vision, motor and sensory, each showing the same essential duality. At a very low level in the animal scale, the most primitive visual organ, a single receptor cell, reacted to incident radiation by one primitive, indubitable response—a motor, directional one. This, the fundamental protopathic response to light, was traced to the elaborate photostatic mechanism for equilibration and co-ordination met with in man, a system whose reflexes were co-ordinated in the midbrain and differentiated and integrated in the cerebellum. The corresponding epicritic system was represented by fibres subserving stereognostic perception, whose impulses found their integration centre in the cerebrum.

In the sensory functions of vision the same duality obtained.

The protopathic light sense was represented by scotopic vision, and as such was vague, crude, and undifferentiated, lacking localization and discrimination. Photopic vision had the characteristics of epicritic sensibility, with its meticulous exactitude of localization and discrimination, and its greater differentiation qualitatively in the perception of colour. The appreciation of movement was a primitive biological feature, vital for the preservation of life; it was, therefore, essentially protopathic. Colour vision was photopic, it showed the richest qualitative differentiation of any sense; it was, therefore, pre-eminently epicritic. Luminosity was comparable to temperature sensation in that it was common to both protopathic and epicritic systems, differing in its distribution in range. Phenomena of fatigue and discrimination of depth could well be explained physiologically largely on the basis of induction.

Anatomically the two systems were subserved by distinct elements. In the retina the protopathic mechanism was represented by the rods—the end-organs of scotopic vision and the appreciators of movement. The cones, on which depended the discrimination of minutiae of detail, and the appreciation of colour, were epicritic in nature. In the central nervous system the optic fibres to the superior colliculus and their connections are the most primitive phylogenetically; their function is photostatic; their nature is, therefore, protopathic, and their head ganglion is the cerebellum. The retino-geniculate fibres are largely, and the retino-pulvinar fibres to the thalamus concerned with vision and stereognosis are entirely epicritic, and find their integrating centre in the cerebrum.

The lecturer concluded by expressing the opinion that ophthalmology had too long been content to apply past knowledge, and that future advances will not depend, as heretofore, on refinements of operative technique, but will rather depend on and be revolutionized by an increased knowledge of the biochemistry of the eye and the physiology of vision.

The Museum and Exhibition

In University College an interesting and comprehensive museum had been prepared of drawings, instruments, and anatomical, embryological, and pathological specimens. The efficiency of the catalogue added largely to its scientific interest, and a prominent feature was the number of sections illustrating much of the recent original work done in this country and America. Simultaneously the prominent firms in London ran a Trades Exhibition, in which was demonstrated a large number of new and re-modelled ophthalmological appliances.

The Social Programme

On the eve of the Convention members and their friends were received by the President, Sir John Bland-Sutton, and the Council of the Royal College of Surgeons of England. The museum of the College was thrown open, and the function provided a happy opportunity for introductions prior to the opening of the official programme.

On the afternoon of Tuesday, 14th, a number of excursions were organized to places of ophthalmological interest in London and its environments which were well taken advantage of by members.

In the evening a reception was given by the managers of the Royal Institution, Sir James Crichton-Browne receiving the guests. In the course of the evening Sir W. Bragg, the Director of the Institution, delivered a delightful lecture on Thomas Young and his work, illustrating his subject by experimental demonstrations. He dealt with Young's work on that ever interesting riddle, the nature of light, and showed how, following Newton, he had played a vital and critical part in the scientific advance which had led to the conquests of Lord Rayleigh, and was still to-day a dominating influence in the lecturer's own work on the elucidation of the ultimate structure of the atom.

On the afternoon of the 15th, Sir William and Lady Lister entertained the members of the Convention at a Garden Party in the beautiful grounds at Aubrey House.

On the evening of Thursday, 16th, the President and Mrs. Treacher Collins held a reception in the Wellcome Historical Museum, where the beautifully arranged and systematized collection of instruments, pictures, and tableaux excited a large amount of interest from the visitors.

The Official Banquet

The Official Banquet, which terminated the proceedings of the Convention, took place in the Guildhall on the night of the 17th. A large company was present including a number of distinguished guests, and the toast list was pleasantly interluded by the British Imperial Orchestra and the Gresham Singers.

H.R.H. the Duke of Connaught was the guest of honour. In replying to the Royal Toast he expressed his pleasure at meeting so many distinguished ophthalmologists; of all classes, that profession which devoted their lives to the amelioration and prevention of blindness were deserving of the honour and congratulation of the community. The medical people of London were to be congratulated on their long-famous hospitality to their co-workers from all parts of the world, and he hoped that the time

that their guests had spent in England had been both pleasant and profitable.

The President, in proposing the toast of the English-Speaking Ophthalmological Societies, emphasized the common origin and inspiration of the peoples represented, and the common purpose of the gathering—the love of ophthalmology. The complete ophthalmologist was a practitioner of medicine, a surgeon, a neurologist, a physiologist, a mathematician, a physicist, and above all a psychologist. There was only one nearly approaching this in this country—the President elect. With him as a worthy representative of the oldest English-Speaking Ophthalmological Society he associated Dr. de Schweinitz, and as representing the youngest, Prof. Byers of Montreal.

Sir John H. Parsons remarked that much of the success of the Conference was due to our colleagues from across the seas. At the same time America owed much to English ophthalmology, and the Hospital of Moorfields was undoubtedly the ophthalmic centre of the world. America was now repaying that debt—not in gold, but rather in the coinage of inspiration returned. Dr. de Schweinitz, on behalf of America, paid a warm tribute to English hospitality, and stressed the essential unity of all the English-speaking peoples. Prof. Byers expressed the pleasure of the Colonial delegates in again visiting England, and having the opportunity of appreciating British inspiration.

Mr. J. H. Fisher proposed the toast of the guests, which was responded to by Sir George Wyatt Truscott, who recalled the Freemen of the Mysteries of Barbers whose lineal descendants English ophthalmologists were; by Sir Humphry D. Rolleston, who elaborated the mutual debt of ophthalmology and medicine; and by Sir John Bland-Sutton, who taunted the company that, despite their Convention, they had left unsolved two of their and the world's greatest riddles—the nature of light, and the wave-length of love.

Mr. Ernest Clarke, in toasting the chair, paid a warm tribute to Mr. Treacher Collins—a name known and respected in every town where ophthalmology was practised, and in every clinic where ophthalmology was taught.

W. S. DUKE-ELDER.

ABSTRACTS

I.—TUMOURS

(1) **Wätzold, Paul (Berlin).—Naevus of the conjunctiva bulbi and its transition into malignant forms (carcinomata). (Der Naevus der Conjunctiva Bulbi und sein Übergang in malignen Formen (Carcinome).** *Arch. f. Ophthal.*, Vol. CXIII, 1924.

(1) **Wätzold** summarized the results of the examination and analysis of the material collected at the University Eye Clinic as follow:

(1) Naevus of the conjunctiva is to be regarded as a purely epithelial new growth that has in most cases a congenital origin. In young persons—up to the age of 30 years—it is generally speaking benign in character, but beyond this age it ought to arouse suspicion of its passing into a malignant form if a more rapid growth with or without subjective symptoms supervenes.

(2) A non-malignant naevus is usually pigmented. Absence of pigment does not alter the diagnosis if the characteristic features are found histologically.

(3) The positions in which these naevi are seen are, in order of frequency, the limbus corneae, the inner canthus (caruncle, plica), and other parts of the conjunctiva.

(4) Microscopically the naevus is characterized by:

(*a*) Ingrowths of epithelium in the form of columns or cylinders.

(*b*) The formation of a circumscribed clump of epithelial cells or of cell-nests in the subepithelial connective tissue (or even in the epithelial layer itself) as the result of these ingrowths.

(5) The benign naevus, as seen clinically, is usually quite small (up to the size of a lentil); it forms a more or less raised patch yellowish-brown or brownish-red in colour, with a more or less smooth appearance, firm consistence, and rich blood supply.

(6) Suspicion of commencing malignancy is justified if the following conditions are fulfilled:

(*a*) The age of the patient is over 30 years.

(*b*) A more rapid growth of the tumour with or without subjective symptoms sets in.

(*c*) The individual cells and nuclei assume the greatest possible variety in shape and size, together with a progressive growth no longer spreading laterally but infiltrating the deeper tissues.

(7) It may be taken that a malignant tumour is present if :

(*a*) A considerable part of the conjunctiva bulbi is involved by the growth.

(*b*) It invades the conjunctiva tarsi (metastasis by contact or erosion).

(*c*) The pre-auricular glands are affected.

(*d*) Signs of iridic irritation are present.

(*e*) Microscopically the cells exhibit an extreme variety in shape and tumour cells penetrate along the lymph and blood-vessels, or if the picture of basal cell carcinoma is more or less distinct.

(8) Excision of a piece of the naevus is always to be avoided; experience shows that this is a fatal mistake.

(9) In all cases of naevus in persons over 30 years of age it is advisable, even when there are no signs of malignancy, to remove the tumour and as much of the surrounding healthy tissue as possible, with subsequent X-ray treatment.

(10) While in suspicious cases enucleation with free removal of the conjunctiva bulbi and tarsi may seem indicated, exenteration of the orbit accompanied by free removal of the conjunctiva and subconjunctival tissue and any glands involved is necessary in the malignant forms.

(11) Only an epithelial tumour (basal cell carcinoma) can develop from a naevus of the conjunctiva : its cells sometimes are very characteristic, and yet at times through the great variety in their shape they may arouse the suspicion of a mixed-celled sarcoma.

THOS. SNOWBALL.

(2) **Redslob, E. (Strasburg).—Orbital rhabdomyoma with atypical development. (Rhabdomyome de l'orbite à évolution atypique.)** *Ann. d'Ocul.*, Vol. CLXI, p. 721, 1924.

(2) **Redslob** points out the extreme rarity of rhabdomyoma of the orbit. He found only three cases in the literature. He reports a case in a girl, aged five years. Proptosis, with slight rotation of the eye downwards and inwards was found with some limitation of movement. A hard swelling could be felt projecting from inside the upper and outer orbital margin and measuring about one centimetre in width. The tumour was removed, as, in the course of fifteen days, the proptosis and the displacement of the eye increased to such an extent that the lids could not be closed. The tumour was found to include part of the external rectus muscle and the contents of the upper and outer part of the orbit. The tumour was, to some extent adherent near the optic foramen. Six weeks later, a recurrence was found at the upper and inner angle of the orbit. Rapid increase in its size took place. The orbit

was therefore exenterated. Histological examination of the first tumour showed three distinct gradations of cell; the first were of typical structure of a rhabdomyoma, that is, consisting of elongated cylindrical cells with longitudinal striation. No transverse striation was present. The second zone showed an intermediate type of cell, in which there was considerable difference of form. There were muscle cells which were shorter and with less distinct longitudinal striation. Other cells were still shorter and wider, with the nucleus ovoid in shape. The third zone was characterized by the presence of cells that were larger, with rounded or ovoid nuclei, and proportionately much less protoplasm. It bore resemblance to a lymphoma. The other tumour was found to have invaded the orbital fat and muscles, with some destruction of the latter. Its histological structure was that of a round-celled sarcoma. There was no trace of any spindle-shaped cells comparable with those of the original tumour.

Redslob suggests that the extreme rarity of the occurence of a rhabdomyoma in the orbit may be more apparent than real and that what often appears to be a sarcoma may have been, at an earlier stage, a rhabdomyoma.

HUMPHREY NEAME.

(3) **Rollet and Colrat.—Orbital metastases of tumours of the adrenals.** (**Les métastases orbitaires des tumeurs de la surrénale.**) *Arch. d'Ophtal.*, October, 1924.

(3) Tumours of the adrenals are sufficiently uncommon to justify the publication of individual examples, especially cases in which metastasis occurs. These tumours are met with at two distinct periods, childhood and adult life. The case recorded by **Rollet** and **Colrat** belongs to the latter class. The patient, a male, aged 65 years, came under observation on October 10, 1923, for adenopathy in the right carotid region, of unknown origin. A portion of the growth removed and examined showed the characters of an atypical epithelioma. Radiotherapy was adopted and some diminution in the size of the growth was noted. On February 18 paralysis of the left recurrent nerve developed and shortly afterwards and almost suddenly, left exophthalmos. On palpation a fairly large rather hard tumour was felt at the upper-outer angle of the orbit, and a well-developed collateral circulation was noticed in the eyelids. On March 9 the man died suddenly. The autopsy, performed next day, revealed bilateral tumours of the adrenals, with glandular metastases in the right cervical region. The lungs, liver, brain, and other organs were intact. There was a large metastatic growth in the left orbit with perforation of the orbital wall of the frontal sinus.

The histological characters of the adrenal growth were indicative of a tumour originating in the cortical layers, of the adult type. Histologically the growths in the orbit and the frontal sinus resembled the adrenal growth in all respects. That in the cervical region was noticeably different both in the character of the cells and their arrangement. It also showed extensive necrotic areas. The authors suggest that the dissimilarity of the cervical metastasis should be attributed to the radium treatment to which this growth had been subjected.

The article is illustrated by three photographic reproductions of the patient, the original tumour and the microscopic characters of the orbital metastasis, and contains a fairly long list of references.

J. B. LAWFORD.

BOOK NOTICES

Neurological Fragments. By J. HUGHLINGS JACKSON, M.D., F.R.S., F.R.C.P. With Biographical Memoir by James Taylor, M.D., F.R.C.P., and including the "Recollections" of the late Sir Jonathan Hutchinson and the late Dr. Mercier. Pp. 227 with a portrait. Humphrey Milford, Oxford University Press, 1925. Price 12s. 6d.

Both neurologists and ophthalmologists are deeply indebted to Dr. Taylor for collecting and reprinting Hughlings Jackson's "Neurological Fragments." His memoir of the author and the reprinted appreciations of Sir Jonathan Hutchinson and Dr. Mercier, his life-long friends, add much to the human interest of the book. A list of Jackson's writings is appended; it gives a good idea of the extent and variety of his contributions to both neurology and ophthalmology. Dr. Taylor points out that the obscurity of his style of writing, which was said to have repelled many men from a close study of his views, was more apparent than real and necessitated by the revolutionary nature of their implications and the difficulties which surrounded their clear exposition. His anxiety never to overstate his case necessitated extreme care in its presentment.

One of Jackson's earliest appointments in London was that of clinical assistant to Poland, at Moorfields, at a time when the ophthalmoscope had just been introduced. He was one of the first to see the valuable services that the instrument could render to general medicine, and neurology in particular, and always insisted

on the necessity of its routine use in the examination of all cases of nervous disease. He never lost his interest in ophthalmology; many of the papers in this volume are concerned with that subject, and the last paper he wrote, jointly with Leslie Paton, in 1909 was, "On some abnormalities of ocular movements."

Any criticism of the papers included in the volume under notice would be superfluous but we venture to assert that those who have not previously read them, and also those who have, will derive considerable pleasure from their perusal and will find that, although they were nearly all written in the last century, there is still much to be learnt from them.

School Vision and the Myopic Scholar: a Book for School Teachers and School Workers By JAMES KERR, M.A., M.D., D.P.H. Pp. 159. London: George Allen and Unwin, 1925. Price 5s.

Dr. James Kerr has written a very useful little book on the vision of school children, and particularly with regard to the children who suffer from myopia. In this book he gives an account of the myope classes formed for these and other children with defective vision. Dr. Kerr has had an exceptionally long and wide experience of school medical work, so that any book by him must have points of value. For some years he worked in Bradford where he was surgeon to the Bradford Eye and Ear Hospital, and Medical Superintendent of the Bradford School Board; in this latter position he initiated many of those developments of school medical work which are now so much part of the fabric of the work that we almost forget that at one time they were novelties. Later he came to London as the School Medical Officer of the London School Board, and there in this wide field he did yeoman service in the advancement of school hygiene. Not the least part of the work he did arose from his habit of turning other people on to unexplored jobs, and from that practice much new work was accomplished. It was by one of these arrangements that Dr. Kerr put me on to examine the children in the London schools for the blind. There I saw high myopes being trained as blind children, a situation that called for change; and through that came the myope classes for children who were neither blind enough for blind teaching nor possessed of sufficiently good sight for the normal school.

These classes are now so well known to ophthalmic surgeons that there is no need to describe them. But it is fitting that their aims and character, and the methods of work should be clearly explained to teachers, both those in the myope classes and those in the normal schools. Dr. Kerr has done this in his book. He

has done it clearly and well, in language that is sufficiently free from technicalities to make it readable to the teacher whose only knowledge of eyes is derived from a course in elementary physiology. Perhaps this book is an illustration of the truth of the adage: "Onlookers see most of the game." No one not actually engaged in the origin and development of these classes saw more of their beginnings than Dr. Kerr, and no one onlooker was or is more capable of appreciating their qualities than he is.

The book is of convenient size, well printed and illustrated, and should be most useful as a guide to school teachers of all types.

N. BISHOP HARMAN.

Medical Ophthalmology. By R. FOSTER MOORE, O.B.E., M.A., B.Ch. (Cantab), F.R.C.S. Pp. 344, with 8 coloured plates and 92 illustrations. London: J. & A. Churchill, 1925. Price 18s.

The issue of a second edition of this book at so short an interval after the first shows that the appreciation we then expressed (*Brit. Jl. of Ophthal.*, Vol. VI, p. 284, 1922) has been shared by the profession.

The new edition shows many improvements, not so much in the addition of new matter, although that has not been neglected, as in a better arrangement combined with the wise removal of several inconsequent articles. An appropriate heading has now been put at the head of each chapter, a considerable improvement from the point of view of easy reference. The new articles include the following subjects: defects of the visual fields due to lesions of the temporal lobe; the normal pupillary reactions; intra-cranial aneurysms and subarachnoid haemorrhage; encephalitis periaxialis; primary tumours of the optic chiasma; ictero-haemorrhagic jaundice; and juvenile and adolescent forms of cerebromacular degeneration. The coloured plates which are exceptionally well reproduced are not, as is sometimes the case in ophthalmic works, mere ornaments, but are of real utility. An outstanding feature of the book, in this as in the previous edition, is the excellent bibliography which enables reference to be made readily to any of the numerous authors quoted. The author has wisely refrained from any loose writing on such tempting subjects as "focal infection" or "endocrinology," and has confined himself to careful and concise description of accurate observations by himself and others. As a reliable guide to the close relations of ophthalmology to general medicine the work stands alone and should appeal to a very wide circle. The publishers are to be congratulated on finding it possible to issue the work, in its larger

size and with its added coloured plates, at so trifling an increase in price.

Annual Report of the Ophthalmic Hospital of St. John of Jerusalem in England for 1924.

The British Ophthalmic Hospital of Jerusalem became well known for its surgery during the time that Cant and Harrison Butler carried it on. The present chief surgeon, Strathearn, is a worthy successor and his report for 1924 shows the enormous amount of work that is done with an inadequate staff and restricted finances. With three surgeons (one of them for only half the year), and an expenditure of less than £4,000, an average of more than 50 new patients were seen daily throughout the year, and an average of 13 operations were performed daily. The in-patients were 1,676, the number of beds available not being given.

During the annual autumn outbreak of gonococcal conjunctivitis occasionally 150 new cases are seen in the day, with a correspondingly large number of old cases.

In addition to his surgical and administrative duties (which we regret to learn include those which would more properly be performed by a matron) the chief surgeon has undertaken the organization of six provincial clinics where treatment will be given for ophthalmic cases by trained Palestinian nurses. This is experimental, with the object of providing some form of treatment at a less expense than would be incurred by engaging medical men. The reviewer's opinion of this scheme is not high, but he agrees that it is difficult to resist the lay demand for cheap treatment. In any case it is to be hoped that an adequate supply of india-rubber gloves for the nurses will be available, and that they will be induced to dip their gloved hands in a reliable antiseptic between the treatment of each patient. The application under these conditions of 2 per cent. silver nitrate solution on a pledget of cotton wool for each case of acute conjunctivitis, and of 1 per cent. perchloride of mercury for each case of chronic conjunctivitis (which in the East means trachoma), will probably be of value if a different pledget is used for each eye, a desideratum which it will be found difficult to obtain.

When the reviewer was ordered by Lord Allenby to report to him on the then derelict buildings of the hospital, shortly after the capture of Jerusalem, he stated that they were in every way unsuited for a hospital. However, it was apparently difficult or impossible to provide a new building on a new site, and the fame of the hospital is greater than ever owing to the skill and enthusiasm of Strathearn and his assistants.

NOTES

Appointment

MR. FRANK MOXON has been appointed Honorary Ophthalmic Surgeon to the Nelson Hospital, Merton, Wimbledon.

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Ophthalmological Society of the United Kingdom

THE following have been elected as officers of the Ophthalmological Society of the United Kingdom for 1925-1926:—President: Sir John Herbert Parsons, C.B.E., D.Sc., F.R.S.; Vice-Presidents: A. Maitland Ramsay, M.D., LL.D., Leslie Paton, M.B., Lt.-Col. H. Herbert, and Elmore Brewerton; Treasurer: Sir Arnold Lawson, K.B.E.; Council: A. Levy, M.D., M. L. Hepburn, M.D., J. F. Cunningham, O.B.E., J. Wharton, M.D. (Manchester), F. P. S. Cresswell (Cardiff), R. Foster Moore, O.B.E., M.B., B.C.; Secretaries: Charles Goulden, O.B.E., M.D., M.C. (Council Business, List of Members, etc.) and H. P. Gibb, M.B., B.C., (Congress Business, Transactions, etc.).

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Addendum

WE regret that the following additional paragraph reached us too late for insertion in Dr. Lagrange's paper on "Derangements of the Organo-Vegetative Nervous System" published in our last issue:—

"It is evident that none of the facts I have been able to observe so far justify the suggestion of a theory on the local mechanism of the modifications of the ocular tonus. The tonus may be subject to the variations of tension of the choroidal circulation, as maintained by Dr. Magitot in his remarkable articles (a series of original memoirs, *Ann. d'Ocul.*, 1912-1919); it is also possible that the crisis of glaucoma may be more directly related to the passage through the epithelium of the retina of an excess of aqueous humours, as the classics believe. It only appears from my observations that glaucoma, which is a local accident, is dependent on general factors such as the organo-vegetative nervous system."

FUTURE ARRANGEMENT

1925.

October 6.—Midland Ophthalmological Society (Annual), at Birmingham.